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OPERATING INSTRUCTIONS FOR

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Book I

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OPERATING INSTRUCTIONS
FOR
THE ITEM KC
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Restricted

"KC" AIRCRAFT OPERATION

INSTRUCTIONS

BOOK I

S-E-C-R-E-T

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"KC" aircraft Operation Instructions"
consist of two books:

BOOK I. "KC" aircraft Operation Instructions"
(restricted).

BOOK II. "KC" aircraft Operation Instructions"
(secret)

"KC" aircraft Operation Instructions"
are intended for technical personnel.

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SECTION I

GENERAL INFORMATION FOR STORAGE, TRANSPORTATION ASSEMBLING AND SERVICING OF AIRCRAFT

§1. STORAGE AND GUARANTEE TERMS

"KC" aircraft may be stored for 12 months. This term includes a 3 month operation period. "KC" aircraft is stored in a polyvinchloride envelope with silicagel in depot rooms.

Temporary storage up to 10 days is permissible without the above preservation. "KC" aircraft is to be stored without item " 4Г-52 " in all conditions.

At extended or temporary storeage, some units of special equipment may be stored separately (removed from aircraft) in special air-tight packing.

When delivered from the plant "KC" aircraft is preserved for extended storage.

The guarantee storage life is 1 year from day of delivery to port of destination, provided given instructions are fully observed.

Guarantee service life of "KC" aircraft is 3 months since the date of depreservation, and is included in the guarantee storage life period (when the extended storage is expired).

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For detailed information on storage see section II, this Book.

§2. TRANSPORTATION

"KC" aircraft is transported by trucks of a load capacity not less than 4t in this case the aircraft is mounted on supports furnished with 1:50 spare parts. "KC" aircraft may also be transported by rail on plat cars but but packed in wooden shipping boxes.

"KC" aircraft is to be transported without 4T-52 item.

Airfield transportation within 5 km distance is effected by means of airfield cart. This may be performed with the " 4T-52" item installed in aircraft.

For transportation details see Section IV.

§3. ASSEMBLING

Assembling of aircraft consists of mounting the equipment units removed and setting the wings in flight position.

For details of the "KC" aircraft assembling and disassembling see Section III.

Section V deals with mounting, dismantling and re-

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placement of aircraft units.

§4.SERVICING

Inspections,maintenance works during storage,check-ups,refuelling loading the aircraft during preliminary preflight and take-off preparations and inspection after landing when the "KC" aircraft was not used, comprise the "KC" aircraft servicing operation.

All servicing operations on different stages ofstorage and preparation for mission flight are described in this Book and in the "KC" aircraft Operating Instructions" Book II.

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SECTION II

STORAGE AND PRESERVATION OF "KC" AIRCRAFT AND SPARE PARTS AND TOOLS SET.

§1.GENERAL

Storage of preserved "KC" aircraft is carried out in normal depot storage conditions.

"KC" aircraft may be stored in hangars without preservation for not more than 10 days. It is not to be kept in open air longer than 5 days. The aircraft are to be stored, mounted and attached to hangar trolley in all cases. For an extended storage of 12 months the aircrafts are preserved in P.V.C. envelope with silicagel.

Periodic selective inspections of aircraft are carried out during the extended storage. This furnished data of conditions of all the aircraft in depot storage without depreservation ,inspection and checks.

Spare parts and tools 1 set is preserved for 12 months and stored in normal depot storage conditions.

§2 "KC" AIRCRAFT AND SPARE PARTS AND TOOLS SET STORAGE

I.GENERAL

Corrosion during storage and operation of "KC"

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aircraft and SPT is mostly due to moisture .The metal surfaces may contact with moisture even when well isolated from its direct influence. This may occur as a result of vapour condensation and contact with hygroscopic sub s-tances.Vapour condensation is especially abundant in a damp unventilated depot. Abrupt changes in temperature also favour con densation.

Contact with water absorbent subatances is dangeroud,because it may give rise to corrosion at relatively low air humidity; contact with rags,felt, cotton paper as well as dust and dirt is no less dangerous.

2.DEPOT ROOMS

Depot rooms intended for storage of "KC" aircraft with KI-M and AM K-5B should be well ventilated.

Permissible relative humidity of air is 98%.The temperature should not be less than +5° and exceed +40°C.

Note:1.Abrupt changes in air temperature and relative humidity are not permissible.

2.The temperature and relative humidity not be recorded daily in a special register;in the morning and at the end of the working day.

3. The floor of the depot room must have painted tiled or concrete floors. Earthern floors are not permis-

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sible.

It is forbidden to keep materials or items directly on the floor.SPT set and equipment are to be stored on shelves or trestles.

The shelves must be made of wood covered with oil paint and kept clean.

The shelves must be so placed that the distance from the shelves to a wall is not less than 40 cm.

4.A special compartment tambour separated from the rest of the depot room with a partition is provided for items stored to acquire depot interior temperature.

5.Aircraft, SPT cases are to be freed of dirt and dust outside the depot, then placed into this compartment for not less than 12 hours. The SPT cases are to be inspected selectively; if signs of dampness are observed on cases or wrapping paper check all cases in this group for corrosion; dry the cases and replace wrapping paper.Close the cases and place them for storage.

Make a detailed inspection of "KC" film envelopes. Seal torn places according to Section II of this Book.

If spilled oil from РД-500К is discovered in the tail lower end of the film envelope make a puncture not more than 50mm,in diameter and drain the oil. Seal the puncture.

6.The depot room must be isolated from penetration

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of different gaseous substances (chlorine,ammonia,fumes and smoke). Chemicals ,acids alkalies batteries are not to be stored together with aircraft and SPT sets in the same depot rooms.

7.The depot rooms floor cleaning procedures are to be carried out with help of vacuum cleaners and wet saw dust. It is forbidden to sweep the dry floor and water it.

To protect items from rodents in storage conditions it is necessary to protect the depots from their penetration. The following measures are recommended:

1.Install mousetraps in all depot houses.

2.Bar food on depot premises.

3.During acceptance technical inspections of aircraft,completing elements,SPT sets and ground equipment, special attention should be paid to electrical wiring isulation and various items manufactured from materials liable to be deteriorated by rodents.

4.In case of presence of such deteriorations the defects are to be remidied and general profilactic measures. are to be taken in all storage premises.

5.In periods of seasonal inspects the store house premises are to be desinfected by dusting non-corrosing substances.

6.Wool and felt items are to be desinfected perio-

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dically with antiseptic solution.

7.Dry wood branches of fallen trees are to be systematically removed from storage premises.

8.A strip 20 m wide in the front of depot and 6 m wide at the other sides of the depot must be cleared of trees and bushes.

3.EXTENDED STORAGE OF "KC" AIRCRAFT

1.Preserved aircraft and all completing items are stored/in a depot since the arrival to port of destination. for 1 year

2.The aircraft must be inspected every 10 days throughout the entire storage life.The inspection is limited to checking the covers and colour of the silicagel. in humidity indicators.

3.If the colour of silicagel -indicator is blue and violet -blue with several grains of different colour which do not affect the geheral tint, the air humidity may be considered suitable for further storage,

4.If in one of the six control points the colour of silicagel is completely pink then the silicagel-indicators and sailicagel dehydrators must be replaced.

The record of each inspection is to be entered into the log book of aircraft, section "Periodic Maintenance Operations". The date ,condition of envelope, colour

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of silicagel-indicator, all operations performed in aircraft during storage (replacement of silicagel, repair of envelope etc.) as well as alterations occuring during the storage period are to be put down in this section of the log book.

The entries are to be signed by signed by a person checking the aircraft condition.

6. When transportating aircraft from a depot to another depot or from a depot to inspection room etc. take all measures to protect it from atmospheric precipitation Transport aircrafts under waterproof tarpaulin covers.

7. 10% but not less than 2 aircrafts with all equipment installed of each group are to be subjected to inspection every 2 months of storage.

Note: The term "group" signifies quantity of aircrafts and GIT set preserved during one month.

8. If the equipment is dismounted from aircraft inspect it simultaneously when inspecting the aircraft in which this equipment is to be installed.

9. The inspection must be performed in special room allowing enough space for test stands. The room should meet all the requirements specified under "Depot rooms". of this section.

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10. Depreservation (§3, section II) full inspece tionairframe, electric and special equipment powerplant its accessories installed in the aircraft comprise the periodic inspection:

a).installation of wings in flight positiem if folded inspection of frame ,control systems, electric and special equipment, aircraft powerplant.

Note: 1.For circuit of inspection see §10 of this section

2.Pay special attantion to parts assemblies structural points preserved with lubricants (see list in §5 of this section).

b).check of engine operation ,electric and special equipment.

Perform engine and electrical and special equipment check according to given instructions (section VI,VII of this book).

c).represervation of engine and fuel system ,renewal of preservation lubricant on parts assemblies,airframe structural elements.

11.Every 5 days of storage perform periodic maintenance operations an aircraft stored for 10 days without preservation.

Perform following operations after 5 days storage :

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a) Clean aircraft from dirt and dust with rags;

b). Inspect aircraft according to inspection circuit given at the end of this section;

c). Start engine, warm it up at 3500± 500 r.p.m. for 1-2 min. then smoothly change the speed to not more than 10000 r.p.m. Run the engine rating for 4-5 min. then stop the engine;

d). Close all the access doors install plugs and shields seal, cover aircraft.

For inspection open all access doors and use the inspection tools (devices with mirror, lenses with x5 and x 10 magnification).

During the airframe and equipment inspection observe the inspection circuit indicated in §10 of this section and fig. 6 in the "KC" Operating instructions", book II.

12. "KC" aircraft (airframe, engine) on which corrosion is found are subjected to treatment according to instructions in section XII of this book.

13. After full inspection of the airframe, equipment and engine, removing corrosion and remedying defects depreserve the engine and fuel system of aircraft (§3, this section) then test the engine and its electric equipment according to instructions in Section VI of this book.

AI-9 and AIIB-5B units inspected according to:

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a). "Temporary operation instruction for KI-4 unit"

b)."Operating instructions" AIIK-53 unit"

14.If during a selective inspection it is found that the aircraft have defects (corrosion included) then an additional number of aircraft, equal to that of the first inspection,must be examined. If similar or other defects or corrosion are found in the additional group,inspect 100% of the aircraft.

15.If the additionally inspected aircrafts are free from corrosion and defects ,all the aircraft of the inspected group except those that are defective are allowed for further storage.

Preserve the examined aircraft according to the book.

16.Record data of each inspection in the aircraft log book (condition of aircraft,eliminated defects, storage conditions).

17."KC" aircraft of one batch are to be reprcserved after 1 year of storage. All aircrafts are to be examinedand inspected according to this section. Further use of the aircraft is determined by the commanders' order.

§4.SPARE PARTS AND TOOLS STORAGE

1.The preservation term of a SIT set is 1 year

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and is performed by the Manufacturer.

This term is guaranteed provided preservation made is by the Manufacturer/in proper condition . It is ,therefore, not recomended to open the cases without necessity.

2.The SPT set is subjected to periodical inspectio every 2 months from day of arrival to port of destination in the following manner:

a).One set 1:50, if there are three or more sets in a batch.

b).2 cases with bolts,screws,nuts tools (selectively)if there are less than three sets in the batch and 1 infield cart from each1:50 set.

c).2 cases with bolts,nuts,screws, tail section cart and battery cart from each 1:100 SPT set in batch.

3.Periodical inspections consist in unpacking and examining the SPT set with the purpose of discovering corrosion do not remove; the lubricant do not disassemble the units.

Note:If impossible to determine state of a surface under layer of lubricant remove the latter. In cases of doubt use magnifying glass.

4.On inspecting of R-SP battery cart remove load resistor cover.

4.If signs of corrosion are noted one more set of SPT is subjected to inspection and preservation is made

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according to 2 a of this section, and the set if the inspection is carried out according to 2 b, 2c.

5. If corrosion is noted (or defects of equipment) on additional inspection, then the entire SPT is examined.

6. If no corrosion or defects are noted on additional inspection then the remaining SPT is left for further storage, while the unpacked SPT are depreserved the corrosion eliminated and represerved for further storage. Remove corrosion and represerve according to §5 of this section.

7. All operations performed on inspection of SPT (removal of corrosion, additional inspection) are to be registered in the statement drawn up after each SPT inspection.

8. After 1 year storage SPT is depreserved and a scrupulous inspection is carried out.

§3. DEPRESERVATION OF AIRCRAFT "KC" AND SPT

1. AIRCRAFT "KC" DEPRESERVATION

1. Depreserving fuselage with wing and tail group proceed in the following manner:

a. Remove tarpaulin cover.

b. Scissor off side seam of film cover (close to seam).

c. Dismount shackle, bolt and units of wing beam; carefully roll down film cover, loosen bolts of logement to trolley attachment, mount shackle, lift aircraft "KC" remove logement from aircraft; take off film cover, attach front logement to handling gear and install on it plastic padding (if aircraft is stored on hangar trolley) then lower aircraft on trolley and attach front logement to handling gear and install on it plastic padding (if aircraft is stored on hangar trolley) then lower aircraft on trolley and attach with bolts.

d). Remove all silicagel and humidity indicators wrapping paper, top fairing guard, silicagel box from the intake funnel and extension pipe. Remove plugs and covers indicated in diagram on inner side of portside hatch. Check up quantity of silicagel bags with quantity indicated in label.

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Remove lubricant from parts indicated in list §4 of this chapter. Use Б-70 benzine hair brushes and cloths.

Aircraft control rod joint hinges are to be cleansed with Б-70 benzine on depreservation for operation and covered with lubricant ЦИАТИМ-201.

2. If cradle КІ-0 units and units КІ-12 and П-2 are preserved separately from "КС", depreservation is performed according to "Temporary operation instruction of КІ-4 and "Operation instruction of АПК-5В". Units are mounted on aircraft according to drawings КС7704-590, КС7106-210, КС7106-420.

Remove dummy cradle before mounting cradle. On installing items do not fail to cleanse grounding places with benzine Б-70 soaked cloths to remove lubricant and clean them with sand paper till metallic lustre.

3. The engine is depreserved in the following order.

а). With special hose and funnel drain off preservation oil from transmission and oil -tank. Access to drain places-through engine units accesses.

b). Through hatch. (position 6, fig. 5, book II) remove transmission and oil -tank filters through hatch (position 2 fig. 5, bookII), remove high pressure filter. All filters are to be cleansed with pure benzine Б-70 and replaced.

c). With rotor pole burn rotor through extention pipe for 4-5min. to ensure oil draining off.

d). The fuel and oil systems are not subject to delubrication and are filled with oil and fuel as indicated in book "Engine РД-500К", Operation instructions and brief description".

To depreserve fuel system of aircraft drain off preservation lubricant deposit from kerosene tank through valve in ПЦВ-2.

5. Examine engine and fuel system hoses after depreservation is completed.

6. Substitute hoses if you note cracks on surface (especially in places of connections to fittings), enlargement of upper layer of rubber, its misting from oil and fuel penetration through outer layer of rubber.

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2.DEPRESERVATION OF SPARE PARTS AND INSTRUMENTS

1.Unpack parts and units SPI and remove preservative lubricants in one of the following ways.

a).Immerse parts in oil heated to 110° C . Allow access oil to drain off and remove the remaining oil with brushes and cloths.

b). Clean off lubricant with pure benzine with the help of brushes or cloths.

Note: Use pure benzine ,hair brushes,cloths to remove lubricant from items partly covered with varnish paints.

2.Examine SPI to discover corrosion.

§4. PRESERVATION OF "KC"

I. GENERAL INSTRUCTIONS

1.This preservation instruction is intended for aircraft instruments and engines with clean uncorroded surfaces.

Note: "KC" aircraft (airframe, engine) on which corrosion has been noted before preservation are to be subjected to preservation procedure described in chapter XII.

2.All lubricants used for preservation are to be pure. Its packing should bear seal of Mfr. and it is to be delivered with acceptance-certificate.

Note: Regenerated oil is not to be used.

3.The following operations comprise preservation:

a).Internal preservation of engine(no external preservation) and fuel system;

b).Preservation of fuselage with wing and tail group;

c).Preservation of items KI-4, AIIK-5B and electrical equipment.

4."KC" aircraft is to be set horizontally on handling gear.

II. INTERNAL PRESERVATION OF ENGINE AND FUEL SYSTEM.

1.The oil and fuel systems of the engine M-50CK and fuel system of "KC" aircraft are preserved with transformer oil as lubricant after control tests. The engine is not to be left unpreserved for longer than 5 days from time of de-

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preservation of aircraft till its preservation in film cover.

After return of "KC" aircraft from engine control test to preservation premises, the engine is to be airblasted with stream of 100–120°C but not above. The stream is to pass through cooling outlets to evaporate possible humidity condensates. This should be done within 4 hours after return to hangar and the operation is to last 20–30 min.

2. To carry out internal preservation of aircraft fuel system (fuel tank and conduct):

a. connect battery cart CT–5K to aircraft "KC" (see section X);

b). drain off kerosene tank fuel through drain valve on tee with pump operating MNB–2 on. The remaining fuel is to be drained off through pump valve. (Use hose in SPT 1:50)

c). Through filling inlet replendish tank completely with transformer oil or avia–oil MK–22, MC–20.

Note: The same oil (MK–22, MC–20) may be used for lubrication of 10 fuel tanks with conducts. The oil should be drained off from both tanks and conducts. After each preservation it is to be passed through oil filling filters.

d). Cut in MNB–2 pump connected to CT–5K.

e). To preserve oil conduct of double supply valve remove valve plug and press valve with box key butt till oil appears then replace plug.

f). Remove drain plug on T–valve or open valve into attached hose and collect oil then pump it out of tank.

g). The remaining oil (not suctioned by pump) is to be vented through valve on MNB–2 pump.

e). Shut stop valve.

3. Carry out internal preservation of engine R –500K (see book "R –500K engine "Operation instructions and brief description).

a). Fill aircraft "KC" fuel tank with 25–30 litres of pure transformer oil (T OCT 982–56).

Note: It is not permitted to lubricate the engine with oil used for preservation of aircraft fuel system.

b). Remove filtering element from engine fuel filter

c). Disconnect from baroadjuster front fitting hose conducting fuel to plunger pump.

d). Remove cap plug from ball valve in plunger pump

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cover, install device for plunger-pump drain off, connecting to it hose for vent of oil and fuel (device and hose in engine instrument kit bag).

e). By pressing on device 500-21802 rod drain fuel from low pressure main and plunger pump into vessel.

f). Cleanse fuel filter with benzine and replace it

g). Connect fuel drain conduct to front filling of baroadjuster.

Cutin [illegible]-2 pump of "K" aircraft connected to battery cart CT-5K.

i). To fill low pressure main and plunger pump with transformer oil, open fuel system stop valve press rod of draining device 500-21802 and keep open till oil stream appears from hose connected to device. Then cut in [illegible]-2.

Caution: Make sure oil and fuel do not contact with special and electrical equipment units of aircraft.

j). Remove draining device 500-21802 from plunger pump cover ball valve fitting and plug latter.

k). Disconnect from fitting on plunger pump hose, conducting battery fuel to pump intake, plug opening (with plug in No.2 mechanic's tool kit) direct hose into reservoir.

l). Make sure stop valve is shut.

m). Drain off exhaust oil from oil tank and transmission gear into vessel.

n). Remove, cleanse with benzine and reinstall oil filters of oil tank transmission gear and high pressure filters.

o). Fill oil tank with 6-10 litres of transformer oil.

p). Remove fuel from high pressure main up to stop valve and fill this section of the main with transformer oil from fuel tank. To do this, disconnect spark plug conductors and place insulators on their ends (see No. 2 mechanic's kit bag) then revolve engine two cycles with supply from battery cart CT-5K.

Caution: 2 nd start after full stop of turbine. Interval between first and second run should not be less than 2 min.

The degree of replenishment of this section of high pressure main with oil is determined by oil drain out of

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hose disconnected from plunger pump.

q).Remove fuel from high pressure main from stop valve to working sprayers and fill this section of main with transformer oil. To do this make a third idle start and open valve [illegible] 10 seconds after beginning of start cycle.

r).After cessation of engine rotation shut off valve and cut out IIHB-2.

s).Connect hose to plunger pump.

t).Drain off oil remainder from fuel tank of aircraft through valve on IIHB-2,replace all plugs of shut off valve.

Note: It is permitted to perform cold and hot lubrication of engine with help of lubrication tank 08T/364.The preservation procedure is to be carried out by personnel trained for service of PD-500K.Brief instructions of hot and cold preservation of engine are given below.

4.The order of cold preservation procedure with the help of lubricating tank 08T/364 is as follows:

1.Checkup if lubricant is clean.

2.Fill lubricating tank with 30 litres of transformer oil.

3.Connect battery cart CT-5K to connection plug PK-63.

4.Shut stop valve 630600K.

5.Remove filtering element of fuel filters.

6.Disconnect lead conducting fuel to plunger pump, from bareadjuster valve fitting.

7.Remove plunger cover ball-valve plug and install device 500-21802(from kit bag) for pump drain off.

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8.Cleanse fuel filter and replace it.

9.Connect hose to baroadjuster front fitting.

10.Connect lubricating tank hose to drain off vent on T-bent by low pressure filter.

11.With the help of pump obtain 2 atm. pressure in lubricating tank ;drain off fuel from low pressure main and plunger pump.For this press shaft of device and keep it open full stream of oil appears.

12.Remove draining device from ball valve fitting on plunger pump and plug fitting.Removal of fuel and engine low pressure main lubrication is carried out according to "PD-500K Engine Operation instructions and brief description."(Chapter XII).

Note:During preservation procedure maintain a pressure of 2 atm.in lubricating tank.

5.For hot preservation use lubricating tank 08T/364.

Start engine on working fuel and obtain maximum speed.Operate it for 4 minutes.Bring speed down to 8000-9000 r.p.m.then carry out lubrication. For this shut off engine fuel supply stop valve 630600K and open drain valve of fuel supply from lubricating tank.During lubrication maintain speed at 8000-9000 r.p.m.

3.PRESERVATION OF FUSELAGE WITH WING AND TAIL GROUP

1.Free aircraft of dirt,dust and oil with cloth dipped in pure B-70 benzine.then dry with cloths.

2.All preservation operations (up to the sealing of the last seam) are performed in in succession

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without interruption within 24 hours.

3.Parts and different places of aircraft construction(according to list below) are to be greased with technical vaseline or mixture of avia-oil MK-22 or MC-20 with 4-10% ceriaine ,heated to t°60-70°C the bearings with [illegible] -201.A guard is to be mounted for protection of upper fairing.

LIST

OF ITEMS AND "KC" AIRCRAFT CONSTRUCTION PLACES SUBJECT TO STORAGE PRESERVATION WITH LUBRICANTS

FRONT FUSELAGE

a).Cylindrical and threaded surfaces of transportation joints on frames No.6 and No.18.

b).Sockets for frames No.3 and No.13 pins.

c).Joint fitting openings and front and rear wing attachment washer surfaces.

d).IK-68 device earbolts.

FUSELAGE MID

a).Cylindrical and threaded surfaces of transportation joint on frames No.22 and No.29.

b).Flare mounting bolts.

WING

a).Wing-to-fuselage attachment.

b).Butt bolt on wing and nut attachment.

c).Ear bolt,bearing on aileron rod control

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ends projecting from wing.

4.Wrap aircraft mounted on hangar trolley in 2-3 layers of paraffin paper and brace paper with string.

5.To avoid rupture of film cover wrap all prominent parts of wings, fuselage and tail group in 3-10 layers of paraffin paper and brace paper with string. (wing beam, rear edges of ailerons, wing, flare brackets, etc.)

6.Place 2-3 additional layers of paraffin paper between silicogel bags and fuselage and tail group surfaces in places of contact.

Paraffin paper is to be placed under dummy plugs, aileron, elevator, rudder clamps.

7.Paraffin paper used for packing of aircraft is delivered under seal of manufacturer.

8.Lift packed aircraft with erector and and place bottom part of P.C.V. cover under the aircraft so that the cover plastic socket apertures coincide with apertures on preservation logements of trolley, then attach preservation logements to trolley.

Note: Prior to above operations apply thin layer (15-20 gm per m^2) of technical vaseline to inner side of P.C.V. cover. Do not lubricate 30-40cm strip on both sides of the last seam.

9.Lower aircraft on trolley and attach with bolts.

10.Place silicogel bags on surface of paraffin paper and install silicogel absorbent container in air intake and extention pipe.(see fig. 1).

Note: 1.The silicogel absorbent bags are

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to be made of calico and dust proof paper.

2.To avoid friction damage of absorbent bags during transportation fix latter on straps in three points. Bags indicated in Fig.1 should be made of double layer calico.

11.All silicagel manipulations are to be performed with aircraft attached to trolley and with cover under bottom part of aircraft.This is to be carried out without interruption within the shortest possible period.

12.The silicagel-absorbent bags are to be delivered to preservation premises in water proof packing (e.g. in sealed P.C.V. bag special packing etc.).Packing date should be stated on bag containers.

13.The silicagel-absorbent and indicator bags are to be unpacked directly before use.

14.To avoid saturation of silicagel with ambient air humidity and loss of absorbtion capacity, the period between their unpacking and installation on aircraft andsubsequent sealing of last seam on film cover is not to exceed 1.5 hrs.

15.Wrap aircraft,wing tail group in cover and seal last seam of latter on side.

16.Inspect visually intactness of film cover. Apply airsuction to eliminate air in sealed cover,until it clings lightly to aircraft.If contact with ambient air is noted apply P.C.V. glue.

17.Brace saggings with P.C.V. straps.

18.Dress front fuselage,wing and tail group with tarpauline cover. Check up silicagel humidity indicators accessibility for inspection.

19.Attach labels with preservation date ,term

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of expiry and number of silicogel bags to aircraft after preservation for storage.

The labels are to bear preservation inspectors signature and indication stating whether the aircraft is fully equipped or part of units has been dismounted and preserved separately.

5. PRESERVATION OF ITEMS K-1M, ATIK-5B AND ELECTRICAL EQUIPMENT UNITS.

1. Preservation of special equipment (KI-4, ATIK-5B) and electrical equipment is provided for by the preservation of the entire aircraft in P.C.V. film cover and are not subject to additional preservation operations.

2. In case of separte storage of cradle KI-0 with units and of units KI-12P and TI-2 the following operations are to be carried out:

a). cradle KI-0 and units, cradle front damper units are dismounted (A D-8 shock absorbers are left on aircraft "KC")

Unit TI-2 and dismounted units are preserved in airtight packing according to "Temporary instruction of item KI-4 operation" and "ATIK-5B operation instruction".

b). Dummy cradle is substituted for KI-0 cradle.

c). Set KI-0 cradle front damper units.

d). Wrap the flexible section of special duty wire connecting units KI-4M and KI-3M in paraf-

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fin paper (2-3 layers) then wrapping paper 2-3 layers and attach it all along flexible section line to front of damper units of KI-0.

e).The flexible section of special duty wire units KI-7M and KI-4M is to be disconnected from unit KI-4M wrapped in paraffin paper then wrapped in paper and attached to bracket on dampers of KI-0 rocker.

If unit KI-0 is stored on aircraft, the flexible sections of special duty wire of KI-7M and unit KI-3M are to be attached according to "d",and "e".

f).The connection plugs of rocker KI-0 unit cable are attached to the dummy cradle and anchored.

g).Grounding places left unprotected after dismounting the above mentioned units are to be lubricated with a thin layer of technical vaseline.

6.REQUIREMENTS.

TO PLACE OF "KC" AIRCRAFT PRESERVATION

1.The place of aircraft preservation is to be specially alloted for the purpose and isolated from other premises.

The requirements are similar to those for storage (See §2,section 2).

2.The lubricants and preservation devices for current use are to be kept clean and stored in places preserved for the purpose.

§5.PRESERVATION OF

SPARE PARTS AND TOOLS.

1.Preservation of spare parts and tools

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and devices included in sets 1:1,1:50,1:100 is provided for by the instruction (Preservation term is 12 months). Only uncorroded SPT is preserved. Noted corrosion is to be eliminated in accordance with instructions in chapter XII of this book .

2.All SPT (except trolley,stands ,ladders) is to be packed in wooden transportation cases,containing completing lists with signatures of persons charged with completing and preservation of the SPI.

2.PRESERVATION OF SPT

1.Small details (nuts,bolts, washers,screws etc.) are preserved by immersing them into technical vaseline GOCT 782-53.

1st lubrication is applied by immersion of the parts into lubricant to 105-110° C for 3-15 minutes (according to size of parts) with the purpose of allowing them to attain lubrication temperature.

2nd lubrication is to leave a thicker layer, therefore after complete cooling the parts are immersed into oil heated to t° 60-70°C and left there for 0.5-2min. The details are then wrapped into separate packages and parcels and sealed after enclosing list of parts.

The packages and parcels are packed into boxes. These are to contain completing lists and signatures of persons charged with completing and preservation of SPT.

2.Large items are preserved by spraying or painting one layer of lubricant over them. They are then wrapped into 2-3 layers of paraffin paper packed into boxes

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covered or stored without special packing (hangar trolley)

3.Rubber sleeves,durite hoses and other rubber items are not preserved but wrapped in paraffin paper and packed separately.

On preserving units with incorporated rubber components do not apply lubricant to latter.

4.Do not lubricate varnished surfaces.

5.Prior to application of preserving lubricants the parts are to be thoroughly cleansed with pulverizer, brush,cloths and then dried with cloths,compressed air or in drying chamber.

SCHEME OF PREPARATION,PRESERVATION AND PACKING OF SPI.

Name of SPI and acessories	Preparation for preservation	Lubricant	Packing
1Steel parts and item fully or partly covered with coloured metal(cadmium, nickel,copper plated),collars T-valves,ear bolts,nuts ,screws wire pins,barrels and unvarnished coloured metal parts.	1.Cleanse in benzine bath. 2.Blast with dry compressed air. 3.Dry in drying chamber.	Lubricate by triple immersion into both with neutral technical vazelline heated to 105–110°C, then to 60–70° The lubricant is applied to large items with brush or sprayer.	Wrap in paraffin paper. 2.Pack into wrapping paper. 3.Into wooden cases. Note:Cover inner side of paraffin paper with technical vaseline prior to packing minor parts.
2.Poropolisterol fairings KC0201-1[illegible]0 KC-3050-30	1.Wipe with clean flannel.	Do not lubricate.	1.Pack in wrapping paper. 2.Pack in

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Name of SPI and accessories	Preparation for lubrication	Lubrication	Packing
1	2	3	4
	2.Perolisterol is not to contact with benzine.		case (wooden box).
3.Fiber ,paranite, rubber gaskets and other non-metallic parts.	Free of dust with clean wiper.	Do not lubricate	Pack in paraffin paper. 2.Wrap into paper packet. 3.Pack in case.
4.Extention pipe	1.Cleanse inner surfaces with -70 benzine soaked cloth and outer surface of cover. 2.Wipe with clean dry cloth. 3.Blast with compressed air.	Apply thin layer of technical vaseline heated to 60-70°C, to inner surface with bristle brush or sprayer. Note:Do not lubricate outer surface	1.Cover with 2 layers of paraffin paper. 2.Pack in wooden case.
4a.KC-6100-170 KC-6100-130-2 fuel pipes and KC6100-150 T-fitting	1.Cleanse painted surface with benzine and wipe dry. 2.Blast with dry compressed air.	Lubricate inner surfaces with avia oil MK or MC	1.Wrap each pipe in paraffin paper. 2.Wrap in covering paper. 3.Place in case.
5.High and low pressure fuel hoses and C.V. tubes.	1.Remove dust with clean cloth.	Do not lubricate.	Pack in paraffin paper. Pack in covering paper. Pack in wooden case.
6.Bonding strips	1Cleanse bath with benzine. 2.Dry with compressed airblast	Do not lubricate.	Pack in paraffin paper. Pack in wrapping paper. Pack in wooden box.
7.Metal tools, kit bags, and angle gauges of Elevator and rudder.	1.Cleanse in benzine bath or with benzine soaked cloth. 2.Dry with compressed air.	1.To lubricate immerse three times into technical vaseline heated to 105-110°C for the first	

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Name of SPI and accessories	Preparation for lubrication	Lubrication	Packing
		IMMERSION, then to 60–70°C. Lubricate varnished tools with technical vazeline heated to 60–70°C by applying it with brush taking care to avoid varnish paint.	
8. Buckets, funnels trays.	1. Cleanse with benzine. 2. Air blast with compressed air. 3 Dry in drying chamber.	1. Lubricate with sprayer or brush using neutral vazeline heated to 60–70°C	
9. Suspention and lifting devices.	1. Free of dust. 2. Cleanse unvarnished surfaces with the help of brush and cloth in benzine.	1. Cover with thick layer of technical vazeline.	1. Pack with paraffin paper strap. 2. Pack with wrapping paper straps.
10. Levelling device, optical quadrant and levelling hob.	1. Checkup certificates on levelling device and optical quadrant 2. Levelling hob cleanse with benzine soaked cloth.	Do not lubricate Quadrant and levelling device . Preserve levelling hob immersing twice into bath with technical vazeline heated to 105–110° then to 60–70°	Pack levelling device into Mfr's packing. Wrap levelling device with paraffin paper then with wrapping paper. Pack into wooden case.
11. Levelling ruler	1. Cleanse unvarnished surface with help of brush and benzine. 2. Airblast with compressed air. 3. Dry in drying chamber. 4. Wipe unvarnished surfaces with dry clean cloth.	Lubricate with technical vazeline. Do not lubricate varnished surfaces.	1. Pack with paraffin paper. 2. Pack with wrapping paper. 3. Pack in wooden case.

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Name of SPI and accessories	Preparation for lubrication	Lubrication	Packing
12.Rubber mats	Remove dust	Powder with talc.	Pack in wooden case.
13.Wooden poles	Wipe with dry cloth.	Do not lubricate	Pack with paraffin paper. Pack with wrapping paper. Pack in wooden case.
14.Handling gear 08KC/028	Remove dust Remove dirt from screws with benzine.	Pack and preserve handling gear according to specifications in chapter X.	Pack with paraffin paper. Pack with wrapping paper Brace with string.
15.Trollets 08KC/042,08KC/026 KC9310-0.	1.Cleanse unpainted surface with benzine with help of brush and cloth from dust and dirt. 2.Wipe painted surface with clean dry cloth	Preserve with solid "T".	1.Pack with paraffin paper. 2.Pack with wrapping paper. 3.Brace with string.
16.Trolley 08KC/ /600	1.Cleanse unpainted surface with help of brush and cloth in benzine from dirt and dust. 2.Wipe painted surface with clean,dry cloth	1.Preserve and pack trolley according to specification in chapter X.	1.Pack with paraffin paper. 2.Pack with wrapping paper. 3.Brace with string.
17.SPI for trolleys 08KC/028, CT-5K 08KC/026. 08KC/035,KC9310-00	1.Cleanse in bath with benzine. 2.Airblast with compressed air. 3.Dry in drying chamber.	1.Preserve immersing twice in bath with technical vaseline heated to 105-110°C,then to 60-70°C.	1.Pack with paraffin paper. 2.Pack with wrapping paper. 3.Pack in wooden case.
a).The rest details of SPT having full or partial coating b).Steel details connected with rubber units (logement,and varnished units)	1.Cleanse unpainted surface with clean cloth spaked in benzine. 2.Wipe rubber and painted surface with clean dry cloth. 3)Airblast with compressed air.	Lubricate unpainted surface with technical vaseline protecting rubber and varnished surface from lubricant.	1.Pack with paraffin paper 2.Pack with wrapping paper 3.Pack in wooden case.

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Name of GPI and accessories	Preparation for lubrication	Lubrication	Packing
18. Battery cart CT-5K	Preparation, preservation and packing are in chapter X.		
19. Ready items 1:50	1. Checkup packing integrity.	Do not lubricate.	1. Pack in wood an case.
	2. Checkup documents for ready items.	Do not insert guaranteed notes.	
a). Booster pump NB-2.	1. Cleanse with benzine. -70.	1. Preserve with mixture 94-96% of aviation oil and 6-4% ceresine, heated to 70-90°C as follows:	1. Put transportation cap and plug the fitting hole.
	2. Dry at temperature 20-40°C. Connector plug, drain and vane ducts are not to contact with benzine and preserving liquid.	a). Heat aggregate body to 40-50°C.	2. Pack with paraffin paper twice
		b). Oil the working cavities of pump and other parts of aggregate, immersing into preserving liquid for 10-15 sec.	3. Pack in P.C. cover, using silicogel-absorbent-500g. Note: Pack in P.C.V. cover with silicogel according to §6 of this chapter.
		c). Take them out of preserving liquid, turn aggregate so that engine was downwards.	4. Pack in wooden case.
		d). Let the lubricant drain off and cool it.	
		e). Lubricate heads of screws, bolts nuts with technical vaseline heated to 60-70°C.	

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Name of SPI and accessories	Preparation for lubricants	Lubrication	Packing
b).Generator RCH-3000M	Cleanse lubricating details with cloth soaked in benzine.From old lubricant.Do not let penetration of benzine into generator. Wipe with dry cloth. 2.Varnish generator body and tape with A3-4 anddry at air for 30min.	Lubricate preserving details with technical vazeline TOCT 782-53. heated to 45° or cannon lubricant heated to 75°C .	Pack with paraffin paper shaft end and brace with string. 2.Close fitting with plug saturated with bakelite varnish. 3.Pack with paraffin paper fitting and nozzle and brace with string. 4.Pack generator in P.C.V. cover dwg.No. 08KC/100 wein silicogel-absorbent SCOg and indicator 5.Pack in P.C.V. cover according to96 of this chapter. 6.Pack in wooden case.

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LIST

OF DETAILS, UNITS, CONSTRUCTIVE PLACES PRESERVED WITH LUBRICANTS

No.	Name of details, attachments, joints	Preserved with	Access
1	Engine attachment units on frame 19.	Technical vaseline with brush	Access door between 14 and 18 frames.
2	Wing bar attachment bolts along frame 14 and nut with lug tang		
3	Kerosene tank lower attachment bolts		
4.	II-2 frame fuselage unit attachment bolts		
5.	Rail head openings. Rail heads. Special load attachment parts (bolts, inputs, block, cotters) reference bolts on frame 6 and 11.		Access between 6 and 11 frames.
6	Bolts, holes and surfaces of washer attachments of wing-to-fuselage.		
7	Cylindrical and threaded surfaces of transport lugs on frames 6 and 18.		Lower fuselage
8	Eye lug and sockets for dowels on frames 3 and 18		
9	Eye bolt for puller PK-63		

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No.	Name of details, attachments joints	Preserved with	Access
	Fuselage end		
1	Attachment pin nuts and tang parts	Technical vaseline	Through access at each pin
2	Engine rear suspension (hole threading pins)		Access between frames 23 and 24
3	Transport lugs on frames Cylindrical and transportation surfaces on frames 22 and 29	brush	Lower fuselage
4	Tracer attachment bolts		exterior
5	Steel skin of tail fairing		
	Tail group		
1	Bolts, bushes of upper fin and stabilizer with under fin attachment		Access in fin nose
2	Stabilizer fin-to-under fin coupling bolt		Cut in skin
3	Upper attachment unit sphere-bearing, rudder and rudder pin	[illegible]	Through fin fairing upper access
4	Bushed in electronic unit KC3050-425 (in upper fin fairing)	Technical vaseline	Through fin fairing upper access
5	Bolts and ball bearings of rudder-to-rocker and linkage attachment	[illegible]	Tail fairing accsess
6	Bolts bearings shackles wh elevater suspension on stabilizer ribs 7 and 13	[illegible]	Through rudder holes

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No.	Name of details, attachments joints	Preserved with	Access
7	Root suspension bearings.linkage-to-rocker attachment (bearings and bolts) unions of suspension brackets and elevator (bolts and coupling sleeve)		external
	Wing		
1	Holes and washers of attachment units	Technical vaseline Brush	
2	Central lug butt bolt and washer	[illegible]	Port in rib No.1 in skin
3	Aileron suspension shackle bracket-to-electron unit attachment (bearing bolt) and linkage -to-rocker attachment (bearing bolt)		Below wing with aileron detached
4	Aileron suspension on rib No.15(pin,bearing)		With swung off aileron
	AIRCRAFT AND ENGINE CONTROL		
1	Rudder and elevator to servo units attachment	[illegible]	Through access in fuselage end
2	Linkage-to-aileron and to fuselage servo units attachment	[illegible]	Below 14 and 16 frame acces
3	Linkage-to-left aileron and with rocker and to rocker attachment	[illegible]	Between 14 and 18 frame access

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No.	Name of details, attachments joints	Preserved with	Access
4	Servounits spline shafts	[illegible]	Access in front fuselage and in fuselage end
5	Eye bolt and bearing on aileron linkage control ends protecting from wings (with wings detached)	[illegible]	
6	Linkage-to-rocker attachment rocker attachment	[illegible]	Access i[illegible]
7	Throttle control linkage-to-lever on [illegible] and throttle control lever on engine attachment	[illegible]	Right access on side of [illegible] fuselage
8	Shut off valve control linkage-to-lever of M3K2-2c andto shut off valve lever	[illegible]	Access between frames 14 and 18

Parts and Units

1	Jettisonable hook carbines	Technical vaseline	Access doors removed
2	Access cover attachment screws	Technical vaseline dipping and brush	Outside. Prior to and after mount

Note: Technical vaseline to be applied at 60-70°C

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§6TECHNOLOGY OF FILM COVER SEALING AND APPLICATION OF PATCHES.

The sealing of covers is performed with the help of a portable table device . The sealing of last seam on lubricated aircraft is accomplished by same device see fig\ 43.

All sealing operations are to be carried out in clean premises at t° not lower than +10°C.

It is forbidden to carry on mounting operations in the sealing premises.

1.SEALING OF COVER SEAMS WITH PORTABLE TABLE DEVICE.

1.Cover sealing is carried out on a working table; its length is determined by length of the cover.components and it is divided into two sections by partition. When sealing is being carried out on one section,the other is used for folding and preparation.

The working space of table is a smooth board covered with felt on top of which several layers of oil paper are placed.A wooden strap is nailed on the paper to serve as directing device on sealing.

2.To seal : fold together two films and dispose the rims to be sealed at a distance of 15-20 mmaleng the strap smoothen folds and wrinkles clean with cloth dipped in B-70 benzine.

3.Adjust end of 5-6 cm paper tape mounted on sealing device so that it will unroll on forward thrust of device. The paper tape may be applied manually.The tape

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may be of oil paper or tracing paper.

4.The sealing device is to be propelled along the seam at the speed of 0.75-0.85 m per minute in a smooth motion.

The device is to be conducted slowly along the directing strap and held by cooler and handle. (See fig. 43, sheet 241).

5.The sealing is controlled visually by the colour of sealing tape which should be darker than that of the film.

6.The sealing surface temperature is to be within 250-300°C.Thining of seam is avoided by adjustment of sealing surface.

7.After sealing of seam remove carefully paper ends not attached to seam and remove cover components from table.

8.Fold film sheet longtitudinally in two and cut both butt ends with help of rulers.

9.Cut all edges of longtitudinal seamsin places of their intersection with transversal ones, leaving a 35mmshort edge and 60mm long one.

10. The transversal seam is sealed in manner described above.

Note:Wrinkling of film is permissible if there is no cracking on transversal seams.

11.Turn P.C.V. cover seam in.

12.Patch places of seam intersection with P.C.V. film usingperchlorvinyl glue.(pack size 200x200mm or150x150).

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2.SEALING OF LAST COVER SEAM ON LUBRICATED AIRCRAFT.

1.Place film cover edges to be sealed on board simular to that for sealing.

2.Adjust board to correspond height of last seal on metal or wood stands.

3.Cleanse cover edges to be sealed with B-70 soaked gauze or cloth and smoothen wrinkles and folds.

4.Seal seam as described above.

5.Inspect integrity of cover and seams visually.

6.Patch noted openings with P.C.V. film and P.C.V. glue.

7.To prepare P.C.V. glue,dissolve dry P.C.V. resin in dichlorethane.Add resin gradually to dichlorethane and mix untill a homogeneous substance is obtained.(Ratio 10-15% of P.C.V. tar and 85-90% of dichlorethane)

The viscosite of P.C.V. glue is to be within 45-60 sec.Store glue in closed vessel.

3.APPLICATION OF PATCHES ON FIDM COVERS

1.Use P.C.V. patches and P.C.V. glue to eliminate ruptures and seam defects.Make a 10-20mm patch space allowance on all sides of damage.

2.Cleanse patch and damaged spot with soaked cloth to remove oil.

3.Apply P.C.V. glue to patch and damage surface according to size of patch with brush.

4.1-1.5 minutes after application of glue apply

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patch to damaged spot and smoothen carefully with hand from centre to edge..

4.FILM AND SEAM CHECKUP.

1.Intactness of film and seam sealing is determined visually.on table with the help of an inspection opening -lighted from below.

2.All film comprising the cover is inspected. The film is to be. well gelatinized and rollered.Holes , swellings and rough unrolled ribbons are not permitted. Spots and inclusions visible to the naked eye on inspection are permissible provided there is no crumbling out on 180° bent accross the inclusion.

3.On sealing two films here should be no wrinkling or cracking of film about the seam.Wrinkling of film about the transversal seam is permissible if there is no cracking.When the film is stretched perpendicularly to seam the latter should remain intact.

Note: When inspecting do not stretch seam along sealing or bend it.

A 20% loosening of plasticate from film is permissible.

4.There should not be any apertures on the sealed seam within 5 mm from working surface of cover. If defects such as overheating or lack of adhesion are detected on seam. Use P.C.V. patches and P.C.V. glue to eliminate them.

Note:Apertures on seam beyond 5mm from working surface of cover are not considered to be defects and are not subject to patching.

5.There are not to be more than8-10 patches on entire cover.

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6.At low temperature the cover looses its elasticity and is easily ruptured. At room temperature the elasticity is restored. Therefore all sealing and gluing operations are to be carried out at t° not below +10°C.

§7.REPLACEMENT OF EXHAUSTED SILICOGEL ON AIRCRAFT.

1.Replacing silicogel when indicator has become pink:

a).Remove the one layer of waterproof cover.

b).Remove lug fitting ,eye bolt and wing beam units and cut off lateral seam of cover with scissors (directly proximal to seam).

c).Carefully roll down film cover.

d).Replace the silicagel-absorbent in bags.

e).Substitute blue silicagel -indicators for exhausted pink ones.

f).Wrap with paraffin paper the places from which it has been removed on replacement of silicogel.

g).Cover "KC" aircraft with film cover and eliminate air. Air is to be suctioned with vacuum cleaner pump untill P.C.V. cover clings to item. Seal seam mount lug fitting,eye bolt and wing beam units.

h).Put on one layer waterproof cover.

2.To avoid loss of absorbing capacity of silicogel due to ambient air humidity influence all operations with the silicogel bags are to be carried out,uninterruptedly and in swift succession within the shortest possible period.

§8.RESTORING EXHAUSTED SILICOGEL.

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1.To restore exhausted silicoge l:

a).Spread silicogel-absorbent and silicogel-indicator on aluminum or iron trays in even layers 1-3cm thick and place in thermostat .

b).The silicogel-absorbent is to be dried at.t°150-170°C during four hours and mixed periodically. Its humidity is not to exceed 2% after desaturation.

c).The indicating silicogel is to be dried at 120±3°C. and mixed periodically.

Note:The indicating silicogel is to be dried till all crystals have aequired an even blue colour.

2.Dried Sililcogel is to be kept in clean air tight containers. It may in clean dried and paraffin sealed glass bottles.

The containers are to bear the date of desaturation of silicogel.

3.The desaturated silicogel may be placed into bags while warm and packed in sets into P.C.V. packing (1set in each).Six indicator bags are to be put into each packing.

Seal P.C.V. packing inscribe date and store till use on aireraft (not more than 5 hours.)

4.Indicators are to be charged directly prior to use . If charged before hand they should be wrapped in paper and packed in film cover. Air tight cover to be removed directly before use.

§9.MATERIALS USED IN PRESERVATION.

To preserve engine and "KC" aireraft use:

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a).avia -oil M-22 or MC-20 ГОСТ 1013-49;

b).ceresine brand 80,75 and ГОСТ 2488-47;

c).transformer oil brand "b" ГОСТ 982-56;

d).technical vazeline ГОСТ 782-53;

e).cannon lubricant ГОСТ 3005-51;

f).polychlorvinyl film brand B-118 ТУ МХП-786-57;

g).P.C.V. plastic,sheet and padding ТУ МХП 2024-49;

h).absorbent silicogel brand КСМ and МСМ,silicogel-absorbent КТСТ or МТСТ ГОСТ 3956-54;

i).silicogel humidity indicater- ТУ МХП 1800-50;

j).P.C.V. resin (for glue) ГОСТ3119-46;

k).dichlrethane (for glue) ГОСТ 1942-42;

l).calico 42 or coarse linen 55(for gelbags) ГОСТ 6638-53;

l1).wrapping paper ГОСТ8273-57;

SUBSTITUTES

calico 50,linen 56 ГОСТ 6638-53;

m).mycalene paper 0.35mm thick (for gelbags) ГОСТ 6500-53;

n). paraffin paper АМТУ 305-52;

o).paper for paraffin coating ГОСТ 5175-53 No.1 brand СДП-35

p).string thread ГОСТ 5752-51
substitute:thread "Makkeú" No.9 5/6 ГОСТ 2350-43

q).humidity indicater case

r).benzine Б-70 ГОСТ 1012-54

s).flax cloth ГОСТ 5683-51

t).cotton string No.20 or No.30 ГОСТ 6309-52

u).Dehydrating thread charge catridges ГОСТ3327-46

v). МВ АТИМ-201 ГОСТ 6267-52

w).industrial oil 12 or 20 ГОСТ 1707-51

x).oil МК-8 ГОСТ 6457-53

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§10. INSPECTION OF AIRCRAFT AFTER DEPRESERVATION

Carry out outer and inner inspection of aircraft according to fig. 5,6 book II.

1. Examine inner surfaces of airintake.

2. Examine outer surface of aircraft port-side, wing attachment joints, beam cantilever, access latches frame butt, pin, belts on frame 19A (through individual accesses) screws, nuts brackets.

3. Remove cover "position 8" (fig. 5 between frames 23 and 24) examine engine rear suspention.

4. Remove cover "position 9" between frames 24-26) examine inner surface of hold, control rods of rudder and elevator and corresponding levers on units II-4, outer surface of units II-4 and their attachment.

5. Inspect inner surface of extention pipe.

6. Examine left surface of lower fin through hatch position 10 and hatch position 35 examine rocker. Remove cover "position 11" (on fin butts). Examine upper fin joint attachment, attachment of stabilizer and joint on lower fin, unit KI-3M, lower surface of horisontal group., upper surface of horizontal group., left elevator suspention units, port-side surface of upper fin of rudder, and fairing.

7. Remove cover "position 12" (on top fairing) and examine its inner surface, units KI-11 and KI-1M and their attachment, KI-1M unit attachment joint, rudder upper attachment joint.

8. Examine starboard surface of upper fin rudder, lower surface of horisontal group, right elevator suspention joints, lower fin right surface. Remove cover "po-

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sition 24) examine rudder attachment lower joint and rudder rocker-to rod attachment.

9.Examine starboard surface of aircraft remove cover position 9"(between frames 24 and 26),examine inner surface of hold,control rods of rudder and elevator and corresponding levels on units П-4,outer surface of units П-4 and their attachment, unit П-48Ш and its attachment, remove cover "position 16"(to right between 23 and 24 frames) examine engine rear suspention,access latches, nuts and pin bolts on frame 19.Examine screws,bolts,nuts and brackets on outer surface;remove cover of access position 25(right under frame 16 and 18) and examine throttle control rod attachment with lever УТ-6Д and lever of throttle control on engine ,wing attachment joints.

10.Remove front fairing "position 1",examine front wing, unit КІ-7Д attachment and its outer surface.

11.Remove cover of hatch 2 from top between frames 1 and 3) ;examine hold,servicability of АД-8 shock-absorbers.КЭ-О cradle attachment and its outer surface,lead attachments.Examine nest on frame No.3.

12.Remove cover of hatch "position 3" examine surface of hold,rail butts and special load attachment parts.Examine lugs.

13.Examine kerosene filling hold,fuel feed doubling valve ПК-63. joints,nest on frame 18.

14.Examine transportation joints on frame 29,22,18.

15.Remove hatch cover "position 18"(between frames 14 and 18)throw back. frame with unit П-8,

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examine unit II-2 and its attachment joints. Examine interior surface of hold, kerosene tank, kerosene conduct tank attachments engine outer surface and engine units thereon, stop valve control -rod M3K-2-2c lever and engine stop valve lever; examine rubber and durite hoses on engine and in fuel system of aircraft.

If cracks are noted on the outer surface of engine hoses on conducting butts or if swelling of rubber and its misting due to fuel infiltration are observed, then replace with new hoses. Examine outer surface of unit II-4 its attachment lever, fitting and rocker at frame 14, fitting rod to rocker attachment at frame 14 (port-side) wing beam attachment bolts on frame 14, lug attachment nut.

16. Remove hatch cover "position 19" (between frames 11 and 14, down) examine bottom part of kerosene tank, pump and kerosene conduct.

17. Examine transportation joint on frame 6.

18. Remove cover of access position 20" (between frame 3 and 6, down) examine hold, unit attachmen and them outer surfaces.

19. Examine wing surfaces aileron suspention joints, rod ear bolts, rocker on rib 10, position 28" on fig.5 butt bolts and nuts.

Note: On removing hatch covers examine their inner side and condition of rubber gaskets effecting air tightness. (loss of elasticity, dry cracking and check nuts (threading).
2. Examination of electrical and

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special equipment units is to be carried out according to instructions in chapter VII of this book.

CHAPTER THREE

ASSEMBLING AND DISMANTLING OF "KC" AIRCRAFT

§1. PREPARATION FOR ASSEMBLING

The aircraft to be assembled i.e. fuselage, tail group and folded wing cases with SPI and instruments are to be delivered to the depreservation premises.

Depreserve according to chapter II of this book.

Assemble depreserved aircraft on stand especially provided for the purpose.

If KI-0 cradle units and KI-12M and TI-2 units are preserved separately mount these according to chapter V of this book.

§2. SETTING WING INTO OPERATING POSITION.

To set wing into operating position:

a). see if right aileron is fixed with clamp.

b). remove nut of wing support upper attachment from wing bolt.

Note: Remove all anti-rodent dummy plugs prior to lowering wing.

c). supporting the cantilever remove pin attaching cantilever support lower end, remove support and taking care that the wing bolt enters the beam socket lower the cantilever.

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Attach nut to wing bolt(use special nut KC 9530-30 which is to be found in SPT 1:1).Lifting the cantilevers and their attachment into working position is performed in reverse succession.

On final (prestart) preparation of aircraft the wing bolt attachment nuts are considered serviceable if they have not been used for attachment more than 6 times. If this be the case they should be substituted for new ones from SPT set.

Note:When setting the wing cantilever into transport or operating position see that one of the ailerons is fixed by clamp to avoid damage of aileron rod-control.

§3.DISMOUNTING OF WING.

1.When dismounting wing ,set it into transportation position.

2.Disconnect aileron control -to-rocker bounding strip.

3.Disconnect wing aileron control rod from rocker.

4.Remove cotter ,nuts,bolts from front and rear units.

5.Remove support (see § 2 of this book)

6. Incline wing while supporting it and drive out pins and rear and front units.

7.Supporting wing dismount it and place on two trestles.

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CHAPTER IV

TRANSPORTATION OF "KC" AIRCRAFT

§1. GENERAL REMARKS

The transportation of "KC" aircraft is performed:

1. On heavy duty trucks;
2. In wooden containers open;
3. Mounted on handling gear;

The transportation of "KC" aircraft is to be carried out without item ."4Г-52" in all cases.

The "KC" aircraft may be transported on airfield with mounted "4Г-52" on mounted trolley within 5 km distance.

The aircraft is to be covered according to instructions in chapter XIII of this book.

Transportation is carried out with disconnected shock absorbers АД-8(with КИ-40 cradle on rigid mount).

To avoid damage and rupture of leads to regulator and damage of shock absorber Р-25АМ ,install rubber gaskets under shock absorbing platform Р-25 АМ.

§2.TRANSPORTATION OF "KC" AIRCRAFT BY TRUCK

1.Trahsportation of "KC" aircraft by trucks is carried out on special stands ОВКС/030 Б mounted on the truck platform.Over a distance of not more than 200 km.;

2.The aircraft wings are to be folded when transporting.

3.The truck is to be equipped with frame and

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camouflage cover.

4.After having set andadjusted the stand on truck platform drill apertures for belts to be passed through bars below and attached (see fig.8).

5.To ensure safety and prevent accidents ,all manipulations should be carried out under supervision of person in charge of the procedure.

6.The leading operations are to be carried out with a crane which lifting capacity/ should exceed the weight of aircraft "KC" in accordance with operation instructions of the device.

Note:while leading with crane:

a)All horizental transference of aircraft is to be accomplished by means of the crane cantilever turn.

b).It is absorlutely forbidden to wheel the aircraft on its own wheels while it is attached to crane hook;this may lead to impact with the cantilever and loosening of the aircraft structure.

c).Transfer of aircraft along the vertical plane is to be accomplished by means of the crane pulley and only as an exception may the change of cantilever angle be used. The change of cantilever angle should be as small as possible.

7.When ready ,"KC is to be delivered to loading site.

A 12-[illegible] mm diameter loop is to be tightened frame No. 21 by fin root around red markings on cover of front fuselage leaving free ends about 8 meters in length.

8.Another loop is to be tightened on

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fuselage end around frame 21 in places with red markings and tied in the same manner as described in point 7. The length and diameter of rope is to be the same as mentioned in point 7.

9.Hook the lifting device 09K6/010(painted in red) lift it and approach its hooks to corresponding lug units on aircraft .Take care not to damage skin of aircraft with hooks during process,and see that the direction of the arrow on (cross -bar)lifting device corresponds that of aircraft flight.

10.Insert lifting device hooks into lugs on frame 18.

11.Tighten slack cables on cropspiece by gently lifting pulley.

12.Check up reliability of contact of hooks of cross bar to lug and eye-bolt.

13.To free logemen ts of aircraft from attachment to handling gear remove rear logement -to handling gear logement attachment nuts,and the pin-bolt connecting front logement with front screw jack of handling gear.

14.To stabilize the aircraft and prevent swinging and turning ,while it is being lifted hold rope ends front and end fuselage and proceed with the lifting manipulations according to "7" and "8" points of this paragraph.

15.Elevate aircraft 2500 mm (distance of lowest part of fuselage from ground) draw out the handling gear from under the suspended aircraft and bring under the truck platform equipped with transportation stand.

16.Lower aircraft gently on transportation stand taking care of the logement and attachment places

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coinside .

17.To set aircraft on stand attach 4 bolts next to rear logement connect frame front joint with front logement by pin -bolt and attach it on frame with two bolts.

18.Remove cross -bar hooks from lug and eye bolt, draw cantilever aside and take off cross -bar.

19.Connect bracing and attach with nuts.

20.Use 1.5mm wire to anchor front and rear logement nuts.

21.It is forbidden to:

stand under lifted aircraft;

climb on it;

touch front and rear nose-domes;

touch leading and trailing edges of tail group and wing;

abrupt motions and jerks of crane on loading and unloading;

Caution:When loading and unloading aircraft preserved for long storage special care is to be taken during the operation . It is forbidden to apply any kind of pressure on covers in region of lugs, fuselage end, logements and front dummy plugs.

22.After installation on truck stands the aircraft is to be consealed under camouflage cover.

23.Check up reliability of attachment of airv craft to stand and stands to platform as well as anchorage of all attachment bolts.

24.Trucks with "KC" aircraft should not exceed the speed of 40 km.p.h.10-15 km.p.h. is the speed

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limit for soil country roads.

25.Unload in reverse order.

§3.TRANSPORTATION OF AIECRAFT "MG" ON HANDLING GEAR

To install aircraft on handling gear:

1.Lift aircraft according to 5,6,7,8,9,10,11,12,13,14 of §2. of this chapter.

2.On installing P.C.V. film covered aircraft on handling gear bring latter (with screw jacks lowered) under the aircraft,remove front logement, then lowering aircraft and at the same time lifting rear logement bring its opening to coincide with that of aircraft logement.on frame18. See that the front logement shackle on frame No.6 coincides with fitting on front screw-jack. Insert special bolts of of gear into preservationlogement and tighten them after installed special washers. Lock screw jack with anchoring pin.

Mounting aircraft in tarpaulins cover place front logement along No.6 of aircraft. The openings in rear logement of gear are brought into coinsidence with the sockets on frame 18 of aircraft.The special bolts of gear are inserted into units of frame 18 of aircraft. Attachment of front logement is carried out in the manner similar to that described above.

3.Free cross piece and draw away crane cauntilever.

4.Safety measures indicated inpoint 21 of §2 of this chapter are to be observed during the procedure.

5.Lift aircraft with gear screw jacks to 650 mm distance from the ground. After this the gear and aircraft are read

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for transportation .

Transportation of aircraft on handling gear is permissible within the distance of 5 km provided the roads are in good condition. The aircraft may be trailed by any model of automobile.

Transportation speed is not to exceed 15km Abrupt starts and stops are not permissible.

§4. TRANSPORTATION OF "KC" AIRCRAFT ON OPEN FREIGHT CARS PACKED IN WOODEN CONTAINERS.

1. PREPARATION OF CONTAINER FOR AIRCRAFT

1. Set container on open area with free access for rolling item.

2. Remove rear butt shield and open front shield. door.

3. Adjust plank-boards for rolling in aircraft.

2. PREPARATION OF AIRCRAFT FOR ROLLING IN

1. Lower gear frame to step on rear wheels and anchor it in this position with bolts one for each side.

2. Mount and attach aircraft on the handling gear and bring it to the roll-in-plank-boards.

3. Roll in smoothly without jerks. A person must control wheels motion following the direction lines painted on floor of container.

4. Roll till wheels have reached step-blocks installed on the floor of the container.

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5.Place blocks under front wheels of gear and lift rear wheels so as to facilitate installation of trestles under rear channel of gear.

6.Lower gear on trestles.

7.Trestle front wheels in same manner.

8.Attach trestle with two beams to prevent transversal shifting.

9.Screw jacks are to be installed in places of frame marked red.

9a.Attach gear with aircraft to floor of container by means of turn-buckle.

10.SPT case plank boards,blocks etc. are attached to container by bars.

11.The rolling out is carried out in reverse order.

12.To ensure safety of aircraft and avoid accidents rolling out is to be carried out under the supervision of the person especially appointed for the purpose.

Caution: On rolling the item into the container and rolling it out. See that the clearances between the wing beams stabilizer ends and side shields as well as between the wing tips upper fairing and the roof are even.

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§3. LOADING AND ATTACHMENT OF THE CONTAINER ON FREIGHT-CAR PLATFORM

1. Install container on platform so that it can be easily accessed by winch.

2. Install container on freight-car platform with winch and slings. Winch lifting capacity is to be at least 5 ton.

3. Container is to be loaded according to directions for use of the winch operating.

4. Attach container with cables and turnbuckles, according to scheme of attachment on freight-car platform (fig.10).

5. To transportation of container with aircraft use four-axle 60 ton freight car. A two-axle platform may be used to transport container without "KC" aircraft.

§4. TRANSPORTATION BY AUTOMOBILE VEHICLE ON SPECIAL TRAILER

The containers with "KC" aircraft are transported from railroad stop to spot of destination on special trailers

The transportation speed on trailers:

a). On highway with asphalt and concrete coating the speed is 25 km p.h.

b). On country highways with gravel or coating 12 km p.h.

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§5. ATTACHMENT AND LOADING OF CONTAINER ON VEHICLE TRAILED BY AUTOMOBILE TRANSPORT

1. Install container on area accessible for for which and trailer.

2. Mount container on platform of trailer with help of winch and slings. Winch lifting capacity is to be at least 5 ton.

3. Attach container on trailer with help of turn-buckles. (Fig. 40).

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CHAPTER V

MOUNTING, DISMOUNTING, REPLACEMENT OF UNITS AND BLOCKS OF "KC" AIRCRAFT IN OPERATION.

§1. GENERAL REMARKS.

Mounting, dismounting and replacement of engine units, including YT-6D, M3K-2-2c and electrical and special equipment, tail group and ailerons is described in this chapter.

Setting and removing of wing is described in chapter III of this book.

On mounting aircraft blocks and units lubricate attachment bolts and bearing with ЦИАТИМ -201.

The tools necessary for mounting and dismounting are to be found in SPT.

After mounting operations examine aircraft for presence of foreign objects in service spots and in access openings.

§2. SUBSTITUTION OF ENGINE.

The engine is attached to fuselage in four points two of which are located in front fuselage, and two in fuselage end. There also is an additional technological rest on frame 19 for special bolt in the compressor shackle for support when the fuselage end is disconnected i.e. when the rear attachments of engine is dismounted. Prior to lowering rear joint between rest on frame 19 and special bolt on engine insert gaskets from No.2 mechanic's tool kit.

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Prior to removal of engine dismount stpp valve and throttle valve control -rods.

To remove engine dismable fuselage-to-tail attachment. The fuselage end is attached to trolley No. 08L3/026, next to frame No.22 in one point and in two points on frame No.29 (the fuselage end is attached to trolley in the same manner as the front).

The order of dismounting fuselage -to end attachment proceed as follows:

1. Through accesses (position 16, fig.5) disengage engine rear attachment joints by taking out pin bolts connecting engine to suspention units.

2. Disengage screws attaching air closing tube outlet flanges to lower part of fuselage from left and right then bring the tube ends out .

3. Disconnect electrical equipment and special equipment connection attachments.

Note: Dismantling of attachments is carried out by specialists.

a). Electrical connection plug [illegible] high frequency connector and unit, which are located by left side of frame 19.

b). connector plug No.31 installed next to frame No.18 on fuselage bottom.

Note: After disconnection of plugs they are to be wrapped in paraffin paper. See that the high frequency plug is clean and free of all foreign matter.

[illegible] is installed only on the "T" variety items.

4. Remove covers of accesses to joint

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attachments on frame 19 of fuselage end (position 17,fig.5 book 2).

5.Remove anchoring wire from butt bolts and disengage units with special key.

6.Carefully draw back fuselage end , through accesses see that fin frames do not contact with engine,lift andlower fuselage end according to necessity with the help of fuselage end trolley jack screws. Front fuselage with engine is shown on fig.11 book 1.

After disengaging fuselage end attach nuts to pin bolts for protection of threading.

Butting of end fuselage is performed in reverse order to disengaging .

After dismounting fuselage and carry out the following operations:

1.Through access (position 32,fig.5,Book2) shut stop valve.

2.Disconnect fuel conduct fitting from engine low pressure filter.

3.Disconnect cables from generator and starter.

4.Disconnect electric connection plug ИР-9.

5.Suspend engine with the help of a special cross-bar on crane,disengage nut on left side of engine and nuts ensuring engine brunnion joint attachment; then after having removed bearing covers of these joints carefully bring engine out of the front fuselage. Attach special collar on fuselage end and mount it on trolley. See chapter X of this book.

If the engine is to be delivered for re-

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pair or is to remain for more than 5 days separate from aircrai It is to processed for preservation (see book "engine PD-500K Brief description and operation instructions).Remove generator ignition starting coil KP-1,tachometer pickup DT-6M,oil pressure gauge CD-3,electric cables,extension pipe and technological rest bolt. If these units are still servicable install them on the new engine.

6.The new engine is to be impacked and delubricated according to instructions in book "Engine PD-500K".Brief description and operation instructions ".

7.On new engine install extention pipe taken from the old engine .Use SIT plate washers.

8.Install generator ,ignition coil KP-1 tachometer pickup, oil pressure gauge,elsctric cables and technological rest. Installation of engine on aircraft is carried out in an order reverse to its dismounting . After installation of engine check up clerances.

a). between construction elements of engine and inner shelf of frame 19,in regiem of engine left rest support.The clearance is not to be less than 0.2 mm with bolt of engine auxillary displacement in left rest tightened.

b).between right trunnion curvature and unit on fuselage the clearance should be within 3-6mm Clearance control is accomplished by installation of washers on left trunnion.

After having installed fuselage end and attached engine to rear rest ,check up clearances.

a).between rest bolt head on engine and rest on frame 19 of front fuselage. Not less than 2mm.

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b).ring clearance between extention pipe butt and fuselage tail fairing. The clearance is to be 20^{+8}_{-6}mm

c).to measure clearances use clearance gauge UKC -104(see mechanic's kit bag No.2).

Clearance adjustment is achieved by retating the rear suspention turn-buckle of engine.

Examine airtightness of engine fuel system after having connected fuel conduct to engine, for this:

fill tank with 100litres of kerosene and out in plunger pump PDMB-2 (with battery cart connected Run it 5-6 minutes and examine airtightness of fuel system.

§3.SUBSTITUTION OF ENGINE UNITS.

Substitution of fuel filter oil tank high pressure oil filter ,trabsmission gear filter, draining valve, plunger pump,throttle valve, barometeric adjuster(barostat) fuel accumulator,booster pump,booster sprayer with ignition plug,tachometer generator, electrostarter, generator GCH-3000M and fuel hoses is described in book "Engine PD-500K. Brief description and operation instructions".

Mounting and dismounting the generator GCH-3000M,starter, and booster coil are described in chapter V of book I of "KC" aircraft technical operation instructions. The substitution of fuel pipes is to be carried out with fuselage disconnected from front fuselage. Other unts are to be substituted through accesses of engine hold.

On substituting ,mounting anddismounting engine take all the necessary precautions to avoid damage of e equipment in engine hold.

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§4. SUBSTITUTION OF KEROSENE TANK.

The tank is attached to frame No. 11 with strap and two ear bolts inserted in welded sockets of tank(ear bolts are attached to two brackets on lower part of frame No.14).

To replace tank:

1. Drain off all fuel.

2. Dismount wings.

3. Dismount fuselage and (see §2 of this chapter).

4. Remove engine (see §2 chapter V)

5. Dismount and remove(according instructions in chapter VII of book I, of "KC" aircraft technical instructions) from engine hold the following equipment:

a). Elwetric actuator M3K-2-2c and plug (dismount with brackets).

b). plug PK-63, unit PI-4 (remove without brackets) remove collar of plug No.44.

c). Stop valve 630600K

6. Remove fuel pipe.

7. Remove wing beam. For this remove fairing element attached on 5 bolts to fuselage head. Remove cotters and bolts and nuts attaching beam to frame 14 and remove beam from starboard side.

8. Remove pump ETHB-2 through bottom hatch between frames 11 and 14. (see chapter V §5).

9. Through drain fitting access of tank disengage clamp bolt of drain conduct L-valve.

10. Remove rubber cup from fuel fitting funnel tank.

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11.Disengage strap stay bolt of tank of tank attachment to frame 11.

12.Disconnect from frame 14 brackets remove ear bolts of tank and bonding strip.

13.Carefully remove tank ,turning slightly. To replace proceed in reverse order but take following into consideration .

1.Renew durite connections and packing gaskets.

2.Lubricate all threaded connections of conduct with grease BY and look thmm.

3.Cleanse tank with pure benzine prier to installations. 4.To ensure coincidence of notch on tank with lower attachment strap, the ear bolts may be disengaged or tightened. When this is being carried out check up the ear bolts extreme position range.(from butt to axis of ear bore.) The measuring should be 3 ±6mm.

5.If the tank drain T-valve plane is displaced,release collar engaging durite and adjust T-valve so as to bring its plane into coincidence with that of fitting welded to tank.

After installation examine clearance between structural elements of tank and fuselage.

The clearance between tank shell and structural elements is not to be less than 5mm.The clearance between rivet heads of tank and frame 11 looking rivet heads not to be less than 3.0mm.The clearances are to be regulated by means of additional layers of felt inlayed between tank and frame 11 brackets.It is to be noted that augmentation of felt layers will cause displacement of filling

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intake of tank relative to fuselage cup.

The displacement is within the normal if the rubber funnel of kerosene tank fits the fuselage cup along its circumference. There are to be no clearances between cup and intake. After mounting has been completed test tank visually for leakage filling it with fuel T-1. 20-30 minutes after filling oil spots will appear in leakage spots.

After leakage test complete mounting "KC" aircraft.

§5. SUBSTITUTION OF PLUNGER PUMP ITHB-2

1. Drain off all fuel through drain valve next to low pressure filter of engine(tee).

Note: If defects of pump subject to replacement give no cause for danger during operation, and the pump is capable of producing pressure with electrical circuit wires in good repair, the the draining off is to be carried out with the pump running.

2. Remove access for pump ITHB-2 installation (position 19, fig.5, bookII) and drain off remaining fuel through booster pump ITHB-2.

3. Remove tank clip attaching elbow.

4. Disconnect pump, remove attaching bolts together with durite and L-valve, remove durite collars L valve and sealing gaskets.

5. Disconnect plug MP and drain pipe.

6. Depreserved new pump ITHB-2 and prepare for installation.

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7.Install new durite ,L-valve and gaskets Do not engage collars.

8.Mount pump on fuel tank engage bolts (do not overtighten)

9.Check up adjustment of L-valve relative to fitting on tank.Renew fiber gaskets ,engage clamp and anchor it.

10.Tighten durite hose collars and anchor them with safety wire.

11.Fill tank with 100 liters of fuel .

12.Plug in pump TNB-2 and switch it on to check up electric circuit contacts. For this ,test operating sound of pump actuator for ratting.

13.Check fuel system airtightness from connection with tank to stop-valve (shut off stop valve on fuel system).

a).There should not be any leakage on the TNB-2 pump -to-tank connection gasket. Testing time 20 minutes from moment tank is filled.

b).There should not be any leakage in fiber gaskets and durite joints. Check up after 5 minutes run of pump.

14.Connect drain tube .

15.To check fuel pressure created by pump

a).Connect hose of fuel pressure gauge to "KC" drain fitting.b)

b).Open drain valve on "KC".

c).Cut in pump connected to battery cart on ground supply. The signal lamp "Stop valve shut" should be burning.

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d).On voltage 28±0.5v read fuel pressure on gauge. It should not exceed 0.95atm.

Note:"d" may be effected by connecting 28±0.5v supply to battery cart from outside source by means of feeding cable C9KC/C60-80.

e).Cut off ground supply.

f).Start P[illegible]-500K engine according to method indicated in chapter VI §[illegible] of this book.

g).Increasing speed of engine by intermittently pressing throttle -valve control push-button achieve rating speed and measure fuel pressure created by pump TNB-2. It is not to lower than 0.35 atm.

h).Slow down rotations and stop engine according to method indicated in chapter VI,§[illegible] ofthis book.

i).To adjust fuel pressure created by pump TNB-2 alter resistance in electric supply circuit. Adjustment is achieved in the following mapner:

a). brak seal ,disengage screws and remove cover;

b).displace slide block of resistance II & B-25X in accordance with manometer readings;

c).check up fuel pressure according to "d,e,f,g,h";

d).after having adjusted fuel pressure created by pump,seal resistance cellar screws with DMKITY 520-54 nitro-enamel;

e).set cover on bracket attach it with screws and seal.

16.Close bottom hatch under TLHB-2 pump.

17.Open shit off valve on fuel system

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and look it in open position.

§6.SUBSTITUTION OF ENGINE SERVOUNITS ELECTRIC ACTUATORS YT-6D, M3K-2-2e (fig.12,13, book 1) .

1.DISMOUNTING OF ELECTRIC ACTUATIR YT-6D.

The operations are performed through side access next to frame No. 17 and bottom access (position 18 and 25,book II) in the following succession:

1.Disconnect cable leads.

2.Remove collar with microswitch of full gas.

3.Remove hinged bolt and shaft connecting actuator to rocker.

4.Remove bolt attaching actuator to bracket ,them remove actuator YT-6D

2.MOUNTING ELECTRICAL ACTUATOR YT-6D.

Proceed as follows:

1.Disconnect control rod from throttle lever.

2.Place YT-6D actuator shackle into bracket and insert bolt with washer nut and cotter.

3.Install hinged bolt connecting actuator-to-rocker (with washer nut and cotter).

4.Place collar (with microswitch) on actuator ,adjust its position relative to rest bolt on drive rod and tighten bolt with washer nut and cotter.

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5.Connect cable leads to actuator .

6.Adjust throttle valve control as indicated in this paragraph.

3.SUBSTITUTION OF ACTUATOR M3K-2-2c

1.Check battery cart voltage. For this put "voltage" switch in position "battery" voltage without loading should not be less than 24v.

2.On CT-5K battery cart control board adjust switches "ground supply", "loading", and "ignotion", "starting panel" in position "on". The switches "current", "voltage" in position "battery" stop-valve and throttle control switches are to be in zero position "order".

3.Remove access cover of unit II-2 and the starboard frame attachment bolts. Lower frame to left.

4.Plug in connector cable to plug PK-63 on item and plug MP8M28T2 and four clamp plug on battery cart .

5.By means of intermittent cut-ins of actuator M3K-2-2c with the help of the battery cart control board bring stop-valve shaft in position when slot on lever will coincide with central rut on bracket.

6.Disconnect PK-63 -to -actuator M3K-2--2c cable from socket of actuator.

7.To remove old actuator M3K-2-2c from bracket unlock and disengage four nuts, remove washers and bolts.

8.Check coincidence of notch on projection shaft with central notch on cover M3K-2-2c.

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9.To mount new actuator M3K-2-2c on bracket insert nicked part of valve shaft into opening of projection shaft of M3K-2-2c.

Note: Place lever so that its notch would coincide with that of on bracket.

10.Mount actuator M3K-2-2c on bracket with bolts, put on washers, screw nuts and pin them.

11.Connect plug connector [illegible] (socket) of PK-63 cable to electric actuator M3K-2-2c.

Note: Lubricate all connecting surfaces with [illegible] -201. Use alcohol to remove oil from electric contacts.

12.Remove cover from actuator M3K-2--2c to gain access to stop switches of signal lights.

13.By means of intermittent cutins of actuator, with the help of the battery cart shut stop valve The stop switch of the extreme position of actuator M3K-2-2c shaft is to cutt off current of electromechanism.

14.Check clearance between shaft and end stop of stop-valve on engine M-500 K.The clearance is to be within 0.3-1.3mm . Check contact of shaft and belt

15.Bring adjuster in this position on signal light stop-switch board to contact plate "signal lights" till circuit is out in . The signal lamp must light. Then turn adjustor screw 1/3 of revolution . Lamp must light when the shaft is 5-11mm from screw.

16.After actuation of M3K-2-2c for opening adjust stop-valve open position. signal lamp end switch according to method indicated in point 15.

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17. In this position check clearance between the PD-500K engine stop valve lever and end stop- The clearance should be within 0.3-1.3 mm.

Note: If clearance is not as required, adjust it by means of regulating screw protrusion. Obtain 0.3-1.3mm. Check adjustment of signal lights and stop switch.

18. After having gone through the adjustment of signal light end stop-switches anchor it with check nut and safety washer.

19. Attach cover with 4 screws and anchor these with safety wire.

20. Shut off valve with the help of M3K--2-2c actuator.

21. Disconnect connecting lead from "KC" aircraft.-connecter plug PP-63; battery cart CT-5K.

22. Install frame of unit PI-2 and attach with bolts.

23. Install and attach hatch cover between frames 14-18.

THROTTLE VALVE ADJUSTMENT

1. Bring actuator shaft into "extreme extended position by means of impulse outins of motor(the position is to correspond that of throttle valve "low speed"

2. Using shop-bolt on drive lever adjust "low speed" signal lamp so that it lights to indicate microswitch is on when clearance is 0.3-0.4mm between shop and nut on switch.

3. Bring engine throttle lever into

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"low speed" position (manual control) see note point B.

4.Connect control rod to throttle lever and adjust its length (see note b).

5.Disconnect rod from throttle valve and bring shaft into retacted position (corresponds to throttle valve full speed).

6.Use stop bolt on drive lever to adjust "full speed" light as required in point 2.

7.Anchor adjustable stop bolts on drive lever with check nuts and connect control rods (anchor nut).

Note:a).If not possible to adjust with stpp nut on drive replace rod along notched slot in drive and readjust.

b).Check clearance between throttle lever on engine with paper slip.

§7.FOAM FAIRING REPLACEMENT.

To replace damaged peropolysterol fairing with fairing from spare parts and accessories proceed as follows:

1.Disengage screws attaching fairing metal framing to fuselage (top fairing of fin) and remove damage fairing .

2.Apply fairing to fuselage and butt its metal framing if necessary.

3.Use pencil and ruler to mark position of fuselage-to -fairing attachment holes on outer strap of fairing. Then drill the holes.They are to have a 3 mm diameter.

4.Apply fairing to fuselage to check

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for fitting then augement diameter to 6 mm.

5.Mount fairing on "KC" aircraft.

6.On fairing metal frame draw projection of nick on fuselage with paint A-13 (on top and side).

Note: a).Prior to installation of fairing on aircraft adjust unit KI/7M (see chapter III,book II)

b).Replacing top fin fairing make sure clearance between fairing and antenna is not less than 3mm.

8.MOUNTING AND REMOVAL OF 6306COK SHUT OFF VALVE.

1.Remove access covers under fuselage between frames 11-14 and 14-18.

2.Remove strap button attaching joint 35 to unit TI-2, disconnect joint 35 and 45 ,disengage unit frame attaching wing nuts and swing off frame with unit.

3.Drain off fuel from kerosene tank cut in battery cart CT-5K for purpose. If shut off valve 630600K is not serviceable drain through TIHB-2 valve (TIHB-2 cut out).

4.Remove seal and disconnect from 630 600K shut off valve with vent valve and disengage coupler frombody of valve.

Mounting is carried out in reverse order. Lubricate with BY . After mounting check up :fuel system tightness according to chapter VI. Check engine run and test AIIK-5B according to "Operation instructions of item AIIK-5B ,chapterIV.

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9.REMOVAL AND MOUNTING OF NON -RETURN VALVE.

1.Remove access cover in under fuselage between frame 14-18.

2.Remove button strap attaching plug connector No.35 to TI-2 unit frame and disconnect joints 35 and 45, disengage wing nuts of unit frame attachment, swing off frame with unit. Drain off fuel through valve.

Note: The pump should be on when fuel is being drained . Never operate pump TIHB-2 without fuel.

3.Unlock coupling nuts of pipes to non-return valve. Loosen nuts next to shut off 630600K valve.

4.Remove nuts of pipe line to frames 15 and 18 collar attachment.Draw pipe aside and remove non-return valve from kerosene tank. Mount in reverse order.Install pipes and valve in reverse order using BY sealing lubricant.After mounting run engine ,check ATIK-5B and non-return valve work (operation reliability) if fuel level is constant when engine is operated on external fuel feeding (supply) the non return valve is in good working condition.

10.DISMOUNTING OF RECIPROCAL NON-RETURN VALVE

(See Technical Description ,book II)

1.Remove access cover in under fuselage between frames 14-18.

2.Remove button straps attaching joint No.35

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to frame of unit ТТ-2 and disconnect joints 35-45,remove unit frame attachment wing nuts and swing frame with unit.

3.Remove plug on fuselage over mating return valve.

4.Remove seal and coupling nut from kerosene conduct to mating valve. Remove collars from 15 and 18 frames then remove mating valve.

Mount in reverse succession .Lubricate valve threading with sealing lubricant. Test valve after mounting according to book II, chapter I, "Operation instructions". Test АПК-5В according to "Operation instructions ",chapterIV.

11.REMOVAL OF ДТ-6М PICKUP ON ENGINE ТВ-500. (ДТ-6м tachometer transmitter)

1.Remove access cover in under fuselage betwwe frames No. 14 and 18.

2.Remove button strap attaching No.5 to frame of unit ТТ-2 and disconnect jointd 35 and 45,remove wing nuts of unit frame attachment and swing off frame with unit.

3.Remove nuts,bonding strips.

4.Remove plug connector,lock attached to ДТ-6М. Disengage nuts and disconnect plug.

5.Remove 2 nuts attaching ДТ-6 flange from engine. Mount in reverse succession. After mounting operate engine check for oil leakage and check АПК-5В. work.

12. REMOVAL AND MOUNT OF PRESSURE INDICATOR СД-3

1.Remove hatch cover in under fuselage between No.14 and 18.

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2.Remove button strap attaching plug connectors 35and 45 to unit II-2 frame and disconnect plug connector 35and 45 remove unit frame attachment ,wing nuts and swing off frame with unit.

3.Remove plug from fuselage over mating non-reverse valve.

4.Remove pipe line (main to CB-8).

5.Slacken bolt nut of CB-3 attachment collar and remove nut.

6.Remove coupler fitting plug and extract from CB-3 eye lug. Mount in reverse order ,check CB-3 work on running engine also check work of ATIK-5B.

13.REMOVAL AND MOUNT OF EXTENTION PIPE OF ENGINE.

1.Bring C8KC/026 trolley under fuselage end.

2.Remove hatch covers from under fuselage between frames 14 and 18 and between frames No.23 and 24 starboard and portside.

3.Remove strap-button attachment from plug connector 35, disconnect plugs 35 and 45 remove wing nuts from unit to frame attachment and swing off frame with bolts.

4.Disconnect plugs ,remove collars along butt joint attachment of fuselage to-fuselage end.

5.Place special plate between engine special rest and engine special support on frame 19.

6.Disengage screws along cooler fittings and remove flanges.

7.Through accesses to engine rear suspention

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slacken turn buckles from left and right sides, remove bolts

8.Open accesses to fuselage joint attachments remove 8 nuts and disconnect fuselage end from front fuselage.

Note: Disconnecting fuselage end take care the pretruding parts of engine do not impact with structure of item.

9.Unlock and disengage nuts from extention pipe attachment to flange of jet nozzle then disconnect extention pipe.

Mount in reverse order after mounting operate engine,check ATIK-5B and KI-12M unit.

14.REMOVAL AND MOUNT OF AILERON ON WING.

1.Disengage screws along wing tip and remove it.

2.Remove cotter pin ,nut, washer and 6mm diameter bolt to disconnect control rod from aileron.

3.Remove nuts from bolt of aileron root joint shackle attachment on wing rear stringer.

4.Remove cotter pin on root rest of aileron from wing tip side. Remove aileron suspention pin.

5.Remove holds of aileron root joint attachment shackle on aft wing stringer.

6.Remove aileron.

7.Adjust new aileron cutting away extra skin, attach to rear axis.

8.Adjust aileron so that clearance be-

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tween its butt and wing (also tip) is 3-6mm. Then match wing and aileron trailing edges and mark off holes on aileron shackle 8mm diameter and bore to diameter 8A3.

9. Install bolts nuts, washers in reverse succession to operations 2and3 .Tighten shackle attachment bolts.

Note: Bolts and nuts that have been punched for locking and cotter pins that have already served on aircraft are not to be reused.

10. Check clearances between aileron and wing butts (also wing tip). The clearance is not to be less than 1 mm in operating deviations. To maintain clearance with skin and sealing profile may be filled or a 15mm wide D16AT Л0 ,8 plate riveted on sealing profile.

11. Check misalignment of wing and aileron trailing edgees .Misalignment is not to exceed 2 mm.

12. Use special gauge to check adjustment of aileron to wing contour correspondance to that of wing is determined by the actual either way difference of contour and gauge clearances in points 2-3, 1-2, 3-4. Deviation in points 2-3 is not to exceed 1 mm in two cross -sections and 1.5mm in one in points 1-2, 3-4 not more than 0.5mm. In points 1 and 4 from 1.5 to 4.5 mm

13. Check aileron angles of alteration with 07T/033 angle gauges.

14. Remove access door from under fuselage between frames 14 and 18.

15. Remove 35 plug connector butt on strap attachment to II-2 unit..Disconnect wing nuts of frame attachment and swing off frame with unit.

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16.Check matching of unit ПТ-4 and aileron neutral positions. and aileron angles deflection . Aileron misalignment is no$ to exceed ±2mm.

17.Check maximal angles of ailaron deflections . They are to be within 15±1° .

18.Adjust maximal angles of aileron deflection by by inserting lever stop spacer. Attach spacers with self threading screws. After mounting aileron carry out АПК-5В according to АПК-5В operation instructions" chapter IV

15.REMOVAL AND MOUNT/RUDDER .

1.Remove access covers to bell crank of rudder rod control and lower rudder rod control unit.

2.Remove 3 nuts from bolts of rudder rod control to rudder bell crane.Remove washers and rudder attachment.

3.Disengage nuts of bell crank attachment to rudder control rod and to fuselage end bracket. Remove nuts and disconneot bonding strip from bell crank.Remove bell crank

4.Mount bell crank on fuselage end.

5.Cut off and file rudder allowances. The clearance between rudder and fuselage end is to be 5±1mm Clearance between rudder edge and sealing in neutral position of rudder is permissible from 1±2mm while that between the fin edge and diffleoted rudder is to be 1-2.5mm.

Note:To observe clearances of edges and sealings of fin may be filled. Duraluminum plates may be riveted.

6.Drill and ream holes in bell crank and rudder lower unit diameter 6A3.

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7. Install washers on bolts and tighten nuts. Punch and lock attachments.

Note: Do not install bolts used before.

8. Connect bonding strip to bell crank.

9. Check rudder fall in adjusment. This is determined in terms of either way difference in clearances between contours and clearance gauge in points 2-3, 1-2, 3-4.

It is not to be more than 0.5mm in point 1-2, 3-4 and the point 3 is not to exceed point "2" by more than 1mm in cross section.

10. Check matching of rudder unit II-4 and rudder deflection according to "AIIK-5B operation instructions", chapter II.

11. Check maximum angles of rudder deflection. They are to be within 15±1°.

Note: Adjusment is achieved by using rudder servounit stop bolt.

16. REMOVAL AND MOUNT OF RUDDER

1. Remove cap and protector from rear dome. Remove dome.

2. Remove cover of access to unit KI-[illegible] and access to unit KI-[illegible]

3. Remove K-II fairing and top and under fin.

4. Disconnect cable plugs No. 15/2 from unit KI-12M, cable 28/2 from KI-12M, and cable 31 from KI-12M and KI-II.

5. Disengage 4 bolts of damper to top

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fairing attachment, then remove unit.

6. Disconnect waveguide from unit KI-IM. Disengage 4 attachment bolts then remove unit.

7. Remove 4 bolts of unit attachment and then remove unit.

8. Remove cables 15/2 and 28/2.

Note: Unit and cable removal operations are carried out by appropriated experts.

9. Remove the sixth and eighth link from unit KI-3M waveguide through top fairing.

10. Disengage lower unit bolts of rudder with bell crank, disconnect bonding strip and remove rudder.

11. Remove bolt attachment of upper and lower fins, remove upper fin fairing then remove fin.

12. Remove stabilizer, after disengaging bolt of its attachment to lower fin.

13. Remove elevator after disconnecting attachmentbolts of rudder and stabilizer links. Remove bell crank of elevator from bracket shaft and coupler of left elevator. Disconnect bonding strip of elevator bell crank from control rods.

14. Hinge elevator and attach on hinges. Drill hinges matching with stabilizer units.

Note: Lubricate elevator hinge bolt attachment to stabilizer units with technical vaseline. Then attach.

15. Adjust upper fin, mount cable 15 and 22 and butt link 6 and 8 of waveguide in reverse order to operations in 5-9.

16. Plug the connectors of cable 28 and 15

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to units K-1M, KI-12M, KI-13M then lock the connection.

17. Check falling in of rudder with special gauges. The either way difference of rudder contour over that of stabilizer is actually expressed in termsof clearance difference between contour and gauge in points 1-2, 3-4, point 2 rudder either way difference from stabilizer contour is 1mm in two cross sections and 1.5 in one. In points 1-2, 3-4 not more than 0.5mm, It is 1.5 mm 1.5 mm in points 1. and 4.

18. Check difference in deflection angles of right and left elevators. It is not to be more than 0.5° at $13^{+0.5^\circ}_{-1^\circ}$ upwards and $8^{+0.5^\circ}_{-1^\circ}$ downwards.

Check with hand travel of elevators for smooth motion.

19. Check maximum deflexion angles of elevators with gauge. They are to be within 18±1° upwards and 11.5°±1°downwards.

After mounting carry out levelling check unit KI-12M work.

17. WING TIP REMOVAL AND MOUNT.

1. Disengage 29 screws then remove wing tip.

To mount wing tip:

1. Position wing tip on wing adjust contour and mark out off allowances.

2. Draw hole centre lines of nuts installed on rib 15 and knee joints.

3. Drill 29 holes in centres. Diameter 5.2mm.

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4.Set wing tip on wing and attach at with screws.

18.REMOVAL AND MOUNT OF TAIL PLANE.

Proceed as follows:

1.Remove upper fin and rudder according to § 19 of this chapter.

2.Remove screws along fairings of lower fin and stabilizer .

3.Remove bonding strips from elevator bell cranks.

4.Remove cotter pins,nuts,washers and bolts. Disconnect elevator control rods from bell cranks installed on elevator spars.

5.Disengage nut and washer then remove butt bolt in stabilizer front joint(see fig.15,book I,position I).

6.Remove tail plane.

The mount of stabilizer on lower fin is reverse order. After mounting use angle gauge 07T/033 to check correct deflection of elevators from rudder unit II-4. (for 07T/033 see mechanic's tool kit). Angles of deflection see chapter I ,book I "Technical description of aircraft "MC"

§19.REMOVAL AND MOUNT OF VERTICAL TAIL

Proceed as follows:

1. Remove screws along fillet upper fin on stabilizer.

2.Remove screws along front fillet fairing of tail plane andcover of access between upper and lower

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fin (along fin noze).

3.Remove screws along attachment of upper fin skin to lower fin.

4.Remove bonding strap from rod control and rudder support unit.

5.Remove nuts,washers and three bolts from unit mounted in lower fuselage end.

6.Remove rudder.

7.Remove units KI-1M,KI-II and KI-12M from upper fairing and disconnect special connection through access between upper and lower fin (along fin nose) See chapter 5,book I, "KC" aircraft technical operation instructions".

8.Remove nuts ,washers and bolts along center and rear attachment units of upper fin.

9.Remove upper fin.

Mount in reverse order. After mounting seal holes along front and rear suspentions (portside and starboard)with glued canvas and check rudder deflection from unit PI-4. and correctness of deflection with angle gauge 07KC/056. Use BK-20 or glue for canvas. (See Mechanic's tool k No, 1)Deflection angles-see chapter 1,book 1 of KC aircraft technical description.

20.MOUNTING AND REMOVAL OF ELECTRICAL AND SIECIAL EQUIPMENT

Mounting and removal of equipment units is carried out with aircraft deenergized.

Connect lines and cables to units in conformity with schemes of cable system and markings on the line ends and sockets .

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After removal or mounting of any units of electrical equipment, check corresponding circuit by energizing. See chapter III, book 2 "KC" aircraft operation instructions.

After replacing any unit of items KI-M, ATIK-5B carry out the checking procedure according to ATIK-5B or K-402M according to KI-M "Temporary operation instruction", " ATIK-5B operation instructions".

The procedure of mount and removal of electrical and special equipment is given below.

Note: Remove and mount using only hands do not tap or strike.

I. ELECTRIC EQUIPMENT.

GENERATOR TCH-3000M

1. Remove access cover in under fuselage between frames 14-18.

2. Remove button strip, attaching plug connector No. 35 to frame of II-2 and disconnect plugs No. 35 and 45 remove wing nuts of frame to unit attachment and swing off frame with unit.

3. Remove generator guard tape on generator remove collar and block from screening, disconnect line lugs from clamp-bolts and remove rubber bush wires from inlet fitting.

4. Slacken air intake collar attachment and remove with wires.

5. Remove generator attachment nuts and detach generator. Mount in reverse order.

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Note: To replace rubber bush ,unsolder terminals from wires replace bush then resolder terminals.

STAPTER CT-500M.

1.Remove cover of access in under fuselage between frames 14 and 18 open side "oil-filler" side hatch

2.Swing off unit II-2 as indicated above.

3.Disconnect wires from starter clamp bolts

4.Remove attachment nuts and slightly swinging detach starter. Mount in reverse order. After mounting on "KC" aircraft check attachment of negative wire, on frame 17.

BOOSTER COIL KP-I .

Remove cover of access in under fuselage between frames 14 and 18,open side "oil filler" side hatch.

2.Swing off unit II-2.

3.Remove coil attachment nuts from engine and detach bracket with coil.

4.Detach coupling nuts and remove high tension wires together with contact devices from sockets.

5.Remove screws of cover -to-base attachment and remove cover.

6.Remove coil attachment bolts then remove coil.

7.Disconnect low voltage wires from terminals block.

Mount in reverse succe ssion. Mounting and

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remove procedures are not complicated.and their description is not given here.Swinging off of block П-2 is performed by technition servicing the autopilot.

2.For replacement of ТСН-3000М and starter СТ-500М see book "РД-500К" engine,operation instruction and brief description.

ITEM АПК-5В

UNIT П-2

1.Remove hatch cover in under fuselage between frames 14-18.

2.Remove button strap of No.35 plug connector attachment ,disconnect pluga 35 and 45 remove two wing nuts and swing off frame with block.

3.Disconnect all plugs of cable unit and bonding strip connectingg item to frame.

4.Remove two starboard dowel pind and carfully detach unit with housing and frame. Mount in reverse order.

Note: Take care to leave seals and adjusting bolt looking intact on removing П-2

If П-2 is disadjusted or replaced:

a).Set aircraft in position according to method described in chapter XI of book I, "technical operation instruction of "КС" aircraft.

b).Adjust unit П-2 on frame ,install casing,attach unit filter to bracket and install block to-frame bonding strip.

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c).Set frame PI-2 on aircraft (without connecting cables).

d).Use two adjustment units to obtain air-bubble middle position (within central markings) on level; PI-2 unit level indications are viewed with reflecting device.

e).Lock wire and seal adjustment bolts.

f).Complete mounting.

2.It is to be born in mind that the PI-2 attachment bracket is welded to frame,may break especially when PI-2 is removed.

AILERON PI-4 UNIT

1.Remove cober from under fuselage between frames 14 and 18.

2.Swing off unit PI-2.

3.Detach PI-4 filter from frame 15.

4.Remove bonding strips attaching lever to eye ends.

5.Disconnect right aileron control rod from lever eye end.

6.Unlock and remove coupling bolt to detach lever from bracket peg.

7.Detach unit PI-4 after having disengaged 4 nuts.

ELEVATOR AND RUDDER PI-4 UNITS.

To remove any of PI-4 units:

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1.Remove covers of accesses between frames 24 and 26.

2.Remove filter and plug connector attachment collars.

3.Disconnect cable plug connector of removed П-4 unit. Mount in reverse order.

4.Unlock and disengage coupling bolt of lever to- П-4 shaft attachment,then remove lever.

Note: If П-4 units are removed together with levers begin removal with rudder П-4.

5.Unlock and disengage four bolts next to base of П-4 unit.

6.Remove П-4 from aircraft Mount in reverse order.

Note:Installing lever on П-4 shaft take care that nicks on lever and shaft butt match.

b). When unit П-4 is replaced match neutral positions of aileron and П-4.On deflexion adjust by altering rod length. After replacement recheck"item АПК-5В.

c).Make sure clearance between rod to-lever bolt and out out on fuselage skin is not less than 3mm.

UNIT П-18МО

1.Remove side access cover between 24 and 26.

2.Remove plug connector and cable

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attachment collars of unit П-18М0 (use ИКС-401 screwdriver from electrician's kit bag)

3.Disconnect No.33 and 34 plug connectors.

4.Remove П-18М0 attachment screws and remove unit from aircraft.

5.Mount in reverse order.

UNIT П-I

1.Remove access cover in under fuselage between frames 3 and 6.

2.Disconnect plug connectors 46,48,50 50 ,remove button strips of unit П-I cable attachments and detach unit filter.

3.Remove attachment screws then remove unit. Mount in reverse order.

INVERTERS ПАГ-1ФА

1.Remove cover of lower fuselage access between frames 3 and 6.

2.Disconnect cable lead plug of removed inverter.

3.Remove attachment bolts and detach inverter. Mount in reverse order.

Note: Bear in mind that grounding П-I and П-18М0 and ПАГ-1ФА servounits is achieved by cleaning places of their contact with structure of the item.Grounding instructions are,therefore to be strictly

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observed. (See chapter VII of this book).

ITEM KI-M

KI-O CRADLE WITH UNITS

1.Open access cover in upper fuselage between frames 1 and 3.

2.Disconnect cables 2,3,4,5,6,7,8,9 and 28/1 from cradle.

3.Disconnect flexible parts of special wiring from units KI-4[illegible]M and KI-4[illegible]M.

Note:Plug terminals and unit flanges of KI-4[illegible]M and KI-4[illegible]M on disconnecting flexible parts.

4.Remove 4 screws of cradle-to-shock absorber attachment.

5.Remove cradle and install dummy plugs on connectors. Mount in reverse order.

For removal of cradle rigid mount carry out the following additional operations:

Remove bolt bush,screws, and bracket in four cradle attachment joints (according to photo diagram on fig. No. 4[illegible]).

When necessary to remove separate units (not KI/4[illegible]M, and KI-4[illegible]M) this may be done without detaching the cradle from the aircraft ;

For this:

a).disconnect all cable leads of block removed;

b).unscrew "loss proof" screws on unit

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cover and remove unit from cradle.

Mount in reverse order.

UNIT KI-7M

1.Remove polysterol fairing from front fuselage.

2.Open corner of top fuselage access between frames 1 and 3.

3.Disconnect plug connectors of cable from unit KI-7M.

4.Disconnect flexible part of special wiring from unit KI-46M.

5.Unlock unit attachment bolts and nuts.

6.Remove 3 check nuts from unit bolt attachment and remove bonding strip from fuselage front ring.

7.Disengage 3 bolts from fuselage front ring and remove unit.

8.Install dummy plugs on KI-3? (flexible part) and plug connector Mount in reverse order.

Caution: Do not hold vibrator when mounting or removing KI-7M.

On each mount of unit KI-7M or derangement of bolt adjustment, readjust bolt position according to method described in chapter III of book II

UNIT KI-13M

1.REMOVE cover of access in upper fuselage between frames 1 and 3,and under fuselage between frames 3 and 6.

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2.Disconnect plug connectors of cable No.1 from unit KI-7M and connecters of cables 2,3,4,5,6,7,8 9 from KI-0 cradle units.

3.Free cables 1 to 9 from brackets and collars.

4.Disconnect plug K-13 and remove plug "K" bracket. Free cable 13 from collar.

5.Disconnect cable 17 and 18 plug connecters from invertors MA-250M and MA-500M then detach collars from cables 17 and 18.

6.Disconnect plug connectors of cables 10,11,12,14 and 15/1 from unit KI-13M.

7.Remove screw attachment to fuselage sections and remove unit. Mount in reverse order.

INVERTER MA-250M

1.Remove cover of lower fuselage access between frames 3 and6.

2.Disconnect cable plug connectors of unit unit .

3.Detach attachment screws of inverter funnel cover to fuselage sections and remove panel with inverter from aircraft.

4.Unscrew nuts ,remove washers then remove inverter from panel.

Mount in reverse order.

INVERTER MA-500M .

1.Remove cover of lower fuselage access

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between frames 6 and 3.

2.Disconnect plug connectors and remove terminal block cover then disconnect lines from terminal bolts

3.Unscrew panel attachment screws from fuselage sections and remove panel with inverter from item.

4.Remove nuts,remove check washers then remove inverter from panel. Mount in reverse order.

UNIT KI-12E

1.Remove cover from fin top fairing.

2.Disconnect No.15/2,28/2 and 31.

3.Disconnect 2 bonding strips from aircraft structure.

4.Disengage nuts and remove check washers from pins.

5.Carefully detach block with attachment cradle. Mount in reverse order.

UNIT KI- II

1.Remove metal fairing from fin top fairing.

2.Disconnect high high tention plug connector cable 31.

3.Remove nuts and detach unit aircraft Mount in reverse order.

UNIT KI-IM

Remove guard cap from unit polysterol

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lug.

2.Remove fairing.

3.Remove access cover from fin top fairing.

4.Remove coupling nut and disconnect unit KI-3M link from unit.

5.Remove attachment bolts and detach it from aircraft.

6.Plug links on unit KI-3M and unit KI-IM. Mount in reverse order.

Note: Remember that:

1.Units KI-13M,KI-II and KI-IM grounding is achieved by cleanning structure -to unit contacting places.It is therefore important to keep them clean.

2.On mounting unitsKI-7M,KI-12MP, MA-250M and MA-500M install bonding strips,their attachment to the fuselagestructure is to be previously cleaned.

3.After mounting various units units andequipment look all plug connectors that have been unlooked endismounting.

MOUNTING AND REMOVAL OF PT-40

1.Remove cover of access in under fuselage between frames 14 and 18.

2.Remove buttom strap of plug connector No.35-to-II-2 frame attachment disconnect 45 and 35

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remove wing nuts swing off frame.

3.Remove seal and lock from plug connector III-1,disconnect plug from PT-40.

4.Detach 4 screws of PT-40 attachment to frame 16,then remove panel with PT-40.

5.Remove4 nuts from bolts attaching PT-40. Remove PT-40.

Mount in reverse order.

Check PT-40 AIIK-5B according to "AIIK-5B operation instructions",chapter IV.

REMOVAL AND MOUNT OF ADJUSTER P-25AM

1.Remove access covers in under fuselage and portside between frames 14 and 18.

2.Remove button strap of plug connector No.35 to II-2 frame attachment disconnect 45 and 35 remove wing nuts,swing off frame.

3.Extract P-25AM housing attachment pin then remove housing.

4.Swing off locks on adjuster chassis and remove adjuster P-25AM.

5.Remove nuts from coupling bolts of chassis and remove wires from terminals "Ж", "Б", "А".

6.Remove chassis from platform for this detach 4 bolts of chassis to platform attachment.

Mount in reverse order.

REMOVAL AND MOUNT OF FILTER C№ /3000P

1.Remove access cover in under fuse-

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lage between frames 14 and 18.

2.Remove button strap of plug connector No.35 to II-2 frame attachment disconnect 45 and 35 remove wing nuts,swing off frame.

3.Remove nut in cover then remove cover.

4.Remove two collars attaching cable braiding to filter bracket ,detach braiding.

5.Remove coupling bolts,nuts ,disconnect leads I81,I82,2382 and " - ".

6.Remove 4 screws of filter -to-panel attachment. Mount in reverse order.

REMOVAL AND MOUNT OF FILTER S -14A.

Remove cover of access in under fuselage between frames 14 and 18.

2.Remove button strap of plug connector No.35 to II-2 frame attachment disconnect 45 and 35 remove wing nuts,swing off frame.

3.Remove 3 bolts of filter-to-skin attachment.

4.Remove 4 screws,attaching filter cover.

5.Slacken screws of collars attaching C.Y. tubes to fuselage body.

6.Slacken screws attaching DM1,DM2, 2M4 leads, remove leads from terminals then remove S-14A filter. Mount in reverse order. Mount in reverse order.

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UNIT С Д КС-1А.

1.Remove cover of access between frames 3 and 6.

2.Disconnect plug connectors Ш1-20 and Ш1-21 from С Д КС-1А.

3.Remove nuts washers then remove unit С Д КС-1А from bracket.

Mount in reverse order.

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CHAPTER VI

"KC" AIRCRAFT ENGINE TECHNICAL SERVICE AND OPERATION INSTRUCTIONS

§1. GENERAL INSTRUCTIONS

The engine may be stored on "KC" :

1. Without preservation not more than 5 days.

See Operation Instructions and Brief Description of РД-500К

2. For 1 year with "KC" fully preserved. See section II of this Book.

For preparation of engine for mission flight of "KC" see section VIII of this book.

The preparation comprises 3 stages:

a). Preliminary preparation of power plant.

b). Preflight preparation of powerplant.

c). Release preparation.

All preliminary on a preflight operations are effected with "KC" mounted on handling gear. See section X of this book.

Control, checkup, release and engine operation is effected on СТ-5К supply. See section X.

The operating area is to be equipped with fire emergency devices.

For all directions on operation and technical servicing see Operation Instructions and Brief Description of РД -500К in which all main data on РД -500К are given.

This Operation Instructions" contain an extended information on preparation and details as to the service.

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This preparation is not to preceed "KC" mission flights by more than 3 months . It is to be carried out after depreservation of aircraft in following succession:

1.Cleanse fuel and oil filters.

2.Disconnect drain pipe of ПКВ-2 pump of kerosene tank and see they are clean (airblast).

3.Fill "KC" aircraft tank with fuel;

a).Open fuel filling access

b).Remove filler cap with bayonet gage set funnel with silk,felt filter and fill tank up to capacity (see chapter X of this book).

When filling with gun injector the filler is not necessary.

c).Free filler cap of kerosene.

d).Install filler cap.

e).Cover access.

4.Fill engine oil tank:

a).Open oil filler access.

b).Remove cap with bayonet gauge from oil tank filler.Set funnel into filler (funnel with silk filler) and fill oil 6-8 litres by bayonet gauge ,when oil is filled from МЗ-150 silk filter is not necessary.

c).Cap oil tank fitting.

d).Cover access.

Note:Keep all implements,contacting with filling fuel and oil clean Fuel discharge nose,injector funnels tanks cap etc.

2.Fire safety measures are to

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be ensured and checked on filling site.

3.Fuel and oil are to befurnished with certificates bearing data encompesition. It is not to date more than one months prior to filling.

4.The fuel is not to contain water. For this drain off a quantity of fuel from sump of container a fter it has had 5 min. setting time and examine for water.

5.Fill fuel system of engine (plunger pump).

6.Check tank for leakage. See there are no oil spots or infiltration on tank surface 20-30 minutes after filling.

7.After filling oil tank fill oil system of engine,check level and if there is less than 6 litres replanished tank.Check servicability of srain valve on first start run of engine during filling of oil system. For this open stop valve for 10-15 sec. when speed reaches 700-800r.p.m After stop of engine watch for appearance of oil and fuel from drain valve.(through 5 mm aperture in skin of fuselage under drain valve or through drain pipe attached to fuselage.If oil does not run out replace drain valve.

8.Prepare battery cart CT-5K for operation (see chapter X of this book) plug it into connector PK-63 of aircraft. Cut in ground supply.

Caution:Adjust switches on units KI-13M and II-1 in position "on" before cutting in ground supply (through access "20" on fig. 5,bookII)

9.Examine tightness of fuel hose visually. This is to be performed during operation of plunger pump. IIMB-2,5-6 mm after cut in ground supply.

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10.Check control adjustment by throttle valve and shop valve.

a).THROTTLE VALVE CONTROL.

With the help of push button switch of throttle valve control on CT-5K battery cart control board, bring throttle valve lever into "full speed" position. This is to be indicated by "full speed" signal lamp on panel.

Check with the help of engine, if the th throttle lever stop comes in contact with "full speed" screw st stop. Then with push button switch on battery cart control board bring lever to low speed position. Check throttle valve stop and "low speed" screw stop contact.

Check shift time of throttle lever from "full speed" position to idle run. Time is determined by indicator lights on battery cart control panel; it is to be within 10 -20 seconds.

b).STOP VALVE CONTROL

Bring lever to "stop valve open" and "stop valve shut" position by means of push button switch on battery cart control panel. See if indicator lights go on and off on control panel. Check on aircraft if control lever of M3K-2-2o rests on bracket bolt heads in this positions, and see that stop valve lever on engine does not reach its stops by 0.3-1.3mm.

Note:Operating and adjusting control units consult instructions in description and certificates for YT-6F and M3K-2-2o.

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Indicator lights of "open" and "shut" are to go on when lever stops are still 5–11 mm away those of bracket. 20 minutes for cooling are necessary after every two cycles of work.

Disconnect ground supply.

II. Prepare engine for start.

a). The test area is to be free from stones tools ,paper litter etc.

b). To facilitate starting of engine and avoid overheating position aircraft upwind.

c). Prepare battery cart according to instructions in chapter K of this book.

d). Remove shield covers from airintake and extention pipe ,examine for foreigh objects, check removal of kerosene tank drain plug and compressor screen cover. Remove cap from CD-3 compressor ,indicator fitting and plug from baroadjuster BI-I.

e). Make sure switches on units KI-13M and II-I are in "off " position.

g). Cover accesses (except upper side engine access)

f). Make sure shut off valve in fuel system of "KC" is locked in open position.

12. Operate engine:

a). Check up on indicator lights that stop valve is on "idle run" position (see fig. 21,19, book E)

b). Put "ignition" and "starting panel" on control board in "on" position.

c). Put switch ground supply on control panel in "on" position, "no fuel pressure" light should

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then go on ,and the ГИВ-2 start working

d).Press "start" button on control panel for 1-2 sec. From then on the whole starting process proceeds autematically for 30 sec. and attain idle run rating of 3500$\pm^{500}_{200}$ r.p.m. at throttle valve in constant position. The indicator lights "no fuel pressure" is to go off.

Caution:If "no fuel pressure" light does not go off stop testing engine and eliminate defect.

Note:When starting watch through upper starboard hatch for leakage in joints. If seen shut stop-valve,stop engine

e).Operate in idle run for 1-2 min.

13.For warming up smoothly attain full speed for 3minutes.

14.Check work of engine.

When 13800 r.p.m. speed is attained within 5500-6500 r.p.m. scope.Check generator cut in. This is controlled by indicator light signal "generator on" on control panel cart.

Caution:After actuation of generator at 8000r.p.m. put switch ground supply in "off" position. Under full speed loading check generator and voltage adjuster work. For this adjust switch "load" in position "on" and voltmeter switch in "generator voltage" position,determine voltage and current with battery cart control panel gauges. The voltage is to be 28±0.5v,current 100+20a-

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Caution: Check generator work on ground during 1-2min.(at this rating to avoid over heating).

If generator voltage is not as desired adjust with rheostat in voltage adjuster I-25AM. With throttle in "full speed" position the indicator signal goes on.Slow down to 8000 r.p.m. and keep on this rating for 1-2min. to cool engine.

Caution: Slowing r.p.m. from 8000 to generator cut out ,put switch ground supply "in","on" position. Step engine on idle run with stop-valve.

Note:100 cm^3 p.m. leakage of fuel into fuel drain is permissible.

15.Examine engine installation

a).After stopping engine with stop-valve when turbine retates enertially,see that there is no disorder sound,that the engine runs smoothly not less than 60 sec. that the fuel drain off valve.

b).After full stop of engine check its attachment, anchered and attachment of all units examine oil and fuel hose joints for leakage, examine inlet diffuser screens (clean if necessary) examine engine hold for damage oil accumulation,inspect wire connections to ignition plugs to solenoid valve of starting fuel nozzle to electrical starter to CD-3,DT-6M generater TCH-3000M,inspect extention pipe.

16.Carry out partial preservation of engine and preserve fuel system according to chapter II of this book.

Note:Drain fuel from kerosene tank through drain plug on elbow next to fuel filter.

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of engine low pressure. To facilitate fuel draining TIHB-2 plunger pump may be cut in. Watch quantity of residual fuel in bank. Cut pump out the moment sheps running out of TIHB-2 .

17. Install plugs cover hatches and transfer aircraft for further preparation on completion of manipulations.

§2. PRE-FLIGHT PREPARATION OF ENGINE PLANT.

Proceed as follows:

1. Remove cover ,plugs open hatches and depreserve engine according to "Depreservation of engine", chapter X, book PD-500K. Operation instructions and brief description".

2. Carry out servicing according to list of operations from point 2 to 15 (see §2 "preliminary preparation and tests of engine" of this book.

3. Remaining fuel and oil need not be drained off after servicing.

4. Install plugs ,cover hatches and transfer aircraft for further servicing.

§3. TAKE-OFF PREPARATIONS OF ENGINE PLANT

See book II of "KC" technical operation instructions".

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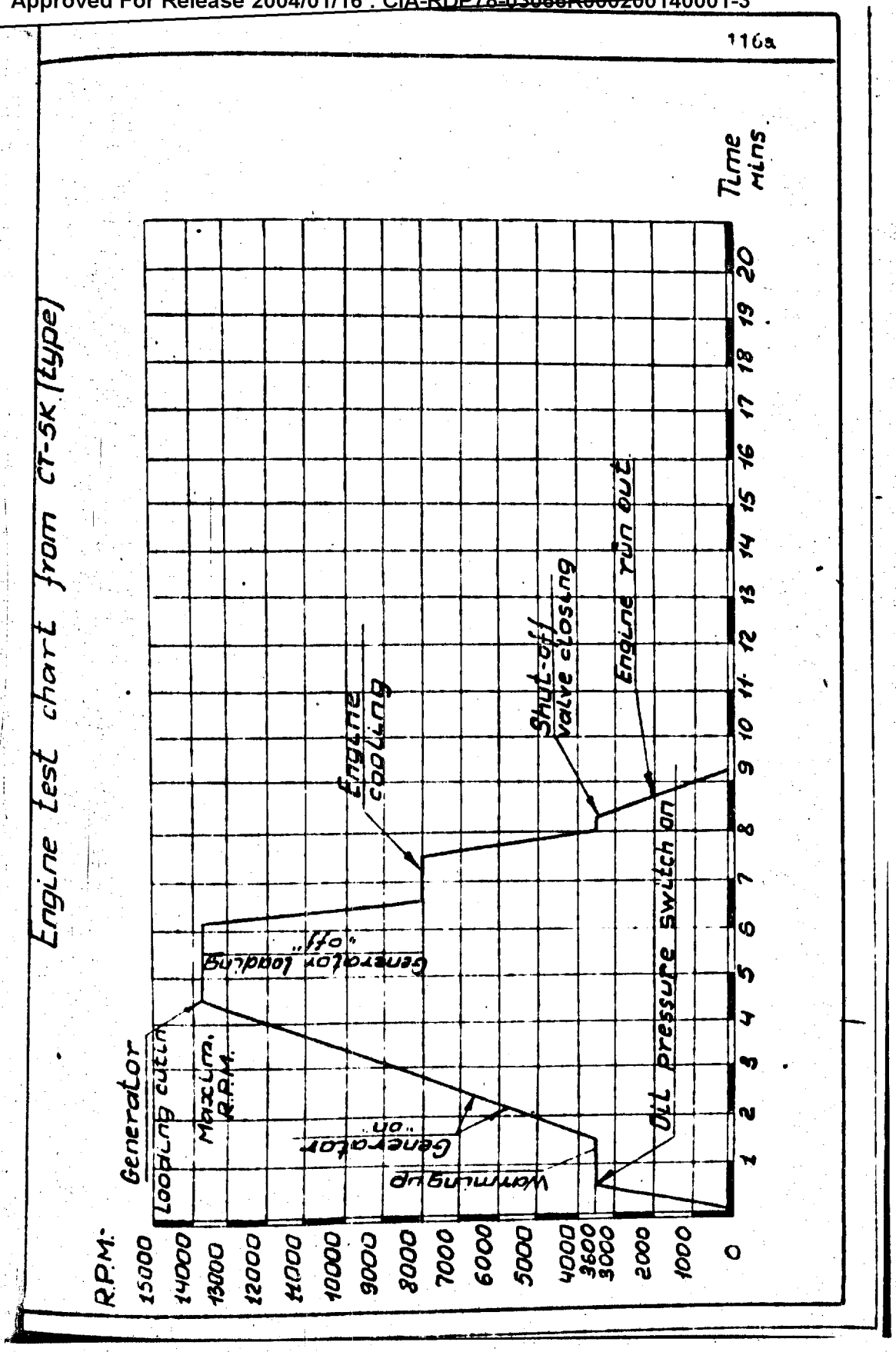
Engine test chart from CT-5K (type)
Time Mins.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
R.P.M.
15000 14000 13000 12000 11000 10000 9000 8000 7000 6000 5000 4000 3600 3000 2000 1000 0
Generator Loading cutin
Maxim. R.P.M.
Generator loading "off"
Engine cooling
Shut-off valve closing
Engine run out
Warming up
Generator "on"
Oil pressure switch on

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CHAPTER VII.

TECHNICAL SERVICING OF ELECTRIC AND SPECIAL EQUIPMENT OF "KC" AIRCRAFT

§1. GENERAL REMARKS.

In view of specific character of the "KC" aircraft, the technical servicing of its electric and special equipment bears specific features and consists of appropriate storage and timely and careful maintenance operations.

§2. PERIODIC MAINTENANCE OPERATIONS

Periodic maintenance operations are a systematic check of "KC" equipment condition and are carried out to determine its serviceability or its fitness for further storage.

Maintenance operationsare carried out by personnel assigned to this work.

Record entries of equipment maintenance operations are made in special register and log book of "KC" aircraft by servicing group engineer.

The maintenance operations listed in this paragraph are intended for "KC" aircraft stored in hangar or store house conditions in tarpoline covers.

All special equipment and training equipment used in take-off preparations.

Periodic maintenance operations on "KC"

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aircraft preserved for storage are carried out according to list brlow every 2 months. Number of aircraft examined is indicated in chapter II of this book.

PERIODIC OPERATIONS LIST

1. AIRCRAFT POWER PLANT AND ELECTRIC EQUIPMENT PERIODIC OPERATIONS

A. Once every two weeks.

1. Open supply hatch on upper surface of fuselage between frames 16 and 18. Examine PK-63 plug connector airblast with compressed air (pressure 1-2 atm) if necessary cleanse pins with brush slightly dipped in B-70 benzine.

2. Open hatch on upper fuselage between frame 1-8, remove front polysterol fairing and examine.

a). Disconnect plug connector from one of units installed in AI-0 cradle and examine pins and sockets If any coating damage, dirt, dust or signs of corrosion are noted -disconnect all plug connectors and if necessary blast with dry compressed air and cleanse with brush slightly dipped in benzine B-70.

b). Check intactness and attachment of bonding strips KI-7M, KI-3M and cradle KI-0.

c). Check collar attachment of cables.

d). Inspect visually outer surface of special wiring flexible sections for corrosion and cracks.

3. Open fuselage hatch between frames 3 and 6 examine and check:

a). Cable collar and connector plug attachment.

b). Invertor MA-500M and MA-250M and unit SPMKC-1A bonding strip attachment and condition.

c). Negative line terminals attachment screws tightening on MA-500M, MA-250M, KI-13M and AFI supply

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terminal attachment of MA-250M line.

d).Disconnect one of the plug connecter in compartment and examine its surfaces;if damage or deteriera tion of co ting is noted ,disconnect all plugs ,inspect and blast with dry compressed air or cleanse with brush dipped in benzine Б-70.

4.Open upper fuselage hatch between frames 6-11 and examine cable and hose attachment if necessary cleanse compartment with clean cloths.(portable lamp, cloth).

5.Open hatch in under fuselage between 11-14 and inspect plunger pump ПНВ-2. (portable lamp, brush, benzine Б-70). Remove dust ,dirt, kerosene and oil. Disconnect plug connector and examine it,if necessary cleanse with brush slightly dipped in benzine Б-70. Check attachment of protectiwe covers and hoses.

6.Open access in lower fuselage between frames 14-18 remove unit ТТ-2 from aircraft(portable lamp, brush,benzine Б-70,shammy mirror.

Then examine plug connectors removed from ТТ-2 and if damage of contact surface coating is noted remove all plugs connectors in given compartment air-blast with dry compressed air and cleanse with brush dipped slightly in benzine Б-70.

b).Cleanse outer surface of electric actuator УТ-6Д from dust dirt oil check closeness of meter collector guard tape fitting and line soldering to micro switches terminals.

c).Remove duraluminum cap from 1-25АМ voltage adjuster push down spring attachment and remove adjuster unit; check condition of contact plates on terminal

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block and contact pins on adjuster unit. If necessary cleanse with pure B-70; examine terminal attachment on contact bolts

Note: Installing and examining adjuster note spring attachments of adjuster to block. They are to be firmly closed.

d). Remove cover from block and relays PT-40, examine contacts, cleanse with benzine and suide. Inspect and check negative line screw attachment.

e). Remove cover from resistance box of [illegible]-50 and [illegible]-25x, inspect line soldering and casing of resistance, check reliability of its attachment.

f). Check intactness and attachment of bending strips of kerosene tank.

g). Check filter cover attachment CB-3000P and B-14A, cleanse from dirt dust and oil.

h). Cleanse surface of actuator [illegible]-2c from dirt, dust and oil, check anchoring of plug connector and closeness of protector tape of collector.

i). Examine attachment and bracket of starting coil KP-I on engine and fitting attachment of high tention wires. Remove dust, dirt and oil.

j). Check attachment of plug connectors in frame 14-19 section, examine technological connections on frame 19A (on top, portside)

k). Examine attachment of tachometer pickup DT-6M and condition of attachment parts; remove all dirt dust and cleanse with benzine dipped brush if necessary.

l). Examine CD-3 tachometer pickup attachment, check if static fitting is clean, disconnect and examine CD-3 plug connectors if necessary blast with dry com-

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pressed air or cleanse with brush dipped slightly in benzine B -70.

m).Perform outer inspection of electro starter CT-500M remove all dust and oil,check reliability of attachment to its bolts and closeness of protector tape fitting Examine attachment flange of starter to lead box of engine and condition of attachment parts.

n). Inspect GGH-3000 externally and remove all dust ,dirt and oil from its surface. Check attachment of protector tape.Examine generator attachment flange and condition of attachment parts. Check reliability of air-intake attachment.

o). Examine plug connector PK-63 remove dust ,dirt from its surface.. Check coupling nut attachment and that of collar on plug connector input. fittings.

p).Check and examine screw attachment of negative lines for security:(starter and ground supply on frame)17),on filter CB -3000P on frame 16;filter B-14A on frame 13,electric actuator M3K-2-2c ,electric actuator YT-6D and relay DMP-400D between frames 17 and 18,plug connector No.9 between frames 18 and 19 veltage regulator P-25AM on control board of regulator.

Note: If traces of corrosion are noted on the negative line terminal in point of its contact with structure element it is necessary to disconnect the negative line and clean the contacting point on structure lustre, remove all corrosion from terminal without damaging coating. After installing cont, access cleaned area with 17% varnish.

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q).Examine bonding strips to TI-4 unit.

r).Remove duraluminum cap from fuse block. Free it from dust and dirt, examine conditions of fuses and security attachment bolts.

s).Remove duraluminum cap from [illegible]-400D relay, eliminate dust and dirt; inspect conditions of terminals on contact bolts and integrity of wires.

t). Examine cable condition and their attachment in section.

7. Check security of negative wire attachment of TK-60 tracer on portside of fuselage end.

8.Remove covers of fuselage side access between frames 24 and 26;then inspect and check:

a).TI-4 unit bonding strip;(lamp, brush benzine B-70).

b).Cable collar attachment;

c).Disconnect one of plug connectors in section and examine its contacting surfaces.

If any damages are noted,disconnect all plugs in section inspect them and blast with dry compressed air or clean with brush dipped in benzine B-70.

9.Open hatch on fin upper fairing and inspect:

a).bonding strips on KI-12MP and KI-3 units.

b).Disconnect plugs connector from unit KI-12MP and inspect contacting surfaces,if necessary air blast with dry compressed air or clean with B-70 benzine dipped brush.

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B. ONCE EVERY MONTH.

1. Carry out two week periodic maintenance operations according to "A" of this chapter. (portable lamp).

2. Check attachment and reliability of KB-9A end switches on electric actuator YT-6D check contact bolt attachment security, and intactness of wire lead terminals.

3. Remove screen filter CB-3COP cover and check security of clamp bolts attachment. Check screens for obstruction and subject to action of dry compressed air. (Portable lamp).

4. Remove cover from [illegible]-14A filter and check security ofline leads in terminals, also check line ends intactness. Examine filter and blow out with dry compressed air if necessary.

5. Remove cover from starting coil KP-I and check condition of vibrator contacts. If they are not clean smooth with shammy moistened in B-70 benzine. Examine and check low voltage line attachment and intactness of lead ends.

6. Remove protecting strips of generator and make sure current bearing wire ends are secure.

7. Open two starboard and two portside "starting units" hatches on fuselage, remove high tension wire nuts on ignition plug butts. Extract lines with spring contacts from sockets, examine contacts and cleanse with B-70 benzine if necessary.

8. Check bonding strip contact resistance of aircraft components units (wing, fin, aileron, rudder etc)

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and cables. See §4 of this instruction.

9.Check electric equipment with energized aircraft and with engine still.

See chapter III of bookII.

10.Check electric equipment with engine operating. See chapter III of book II.

Note: Checking electric equipment with aircraft energized note voltmeter indications on putin and cutout of loading;if voltmeter pointer does not stop at once but sharply vibrates for a time, then replace regulator РР-25М. If the terminal block of the regulator is in good repair replace only the component.

C.ONCE EVERY 3 MONTHS.

1.Carry out 1 month periodic maintenance operations according to "А" of §1 of this chapter.

2.Check insulation resistance of all cables. (check according to §6 of this chapter) inspect all plugs connections.

Note:Checking of insulation resistance is carried out only in case of necessity determined by result of examination according to 9 and 10 of "В" of this chapter. Cables and units of which they comprise an integral part are not subjected to test for insulation resistance.

3.Remove protector tapes from generator ГСК-3000М,starter СТ-500М,unit УТ-6Д and unit МЗК-2-20 examine collectors and airblast with dry compressed air. The collectors are not to have burnings ,if noted clean with

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glass paper No.200 then smooth with shammy slightly dipped in B-70 benzine. Check mobility of brushes in holds. The brushes are to move smoothly and easily.

Note: Do not under any condition use sand paper to clean collectors.

Make sure there is no oil in starter CT-500M when inspecting If oil is present replace with new starter.

II. KI-4 PERIODIC MAINTENANCE OPERATIONS

1.Periodic operations on item KI-4 installed on unpreserved "KC" aircraft are carried out every 10 days.

2.Item K-1M installed on preserved "KC" aircraft stored in film covers is inspected together with the aircraft during periodic maintenance operations every 2 months. All items dismounted from "KC" and stored in airtight packing are subjected to the same procedure at that time.

3. For periodic maintenance operations KI-4 components installed on "KC" aircraft are reached through accesses:

a). to cradle KI-4 , to flexible parts of unit KI-3M, to unit KI-7M through access between frames 1-3 with polysterol fairing remov

b).to units KI-13M. MA-500M,MA-650M through access between 3-6 (down).

c).to units KI-3M and high tension plug connector through access between frames 14-18 (down);

d). to units KI-12P,KI-11,KI-1M,KI-3M

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and high tension plug connectors through access between on upper fairing.

Note: Scope and procedure of periodic maintenance operations is to accord with "KI-M operation temporary instructions No. IA250.00.0 M3".

III. PERIODIC MAINTENANCE OPERATIONS ON UNIT AIIK-5B

1. AIIK-5B installed on unpreserved "KC" aircraft are to be checked every 10 days.

2. When AIIK-5B is kept in air tight packing storage conditions ;or on "KC" aircraft preserved in film.cover, the periodic maintenance operations are carried out every 2 months.

Periodic operations on item AIIK-5B are timed to be simultaneous with overall aircraft periodic operations.

3. Access through AIIK-5B item installed on "KC" aircraft is attained through:

a). hatch between frames 3-6 to units IIAT-IGA, II-I and its filter

b). through hatch 14-18 to units II-2, II-4 and its filter.

c). through side hatches between frames 24-26 to units II-4, II-8MO.

Note: Scope and procedure of periodic maintenance operations are to accord with. Temporary instructions on opera-

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tions of item AIIK-5B .N 369 Ne

NOTES ON ALL PERIODIC MAINTENANCE OPERATIONS

1.Periodic maintenance operations (of any storage term) are carried out by specialists on KI-4 and AIIK-5B especially trained for the purpose.

2.When inspecting units ,items plug connectors pay special attention to corrosion.

3.After carrying out periodic operations make corresponding entries in appropriate sections of log book.

§3.CRAFT BORNE CIRCUIT

"KC" aircraft is equipped with a single line electric circuit of 28±0.5 voltage direct current. Aircraft fuselage serves as ground.

Service reliability of energy consumers is to a great extent dependant upon condition of contacts between negative wires and fuselage and insulation of positive wires.

A break in negative line contact will bring about consumer failure; damage of positive line will cause short circuit in system.

A detailed check up is therefore necessary of negative wire to-fuselage contacts listed below, in table 1 and positive line insulation.

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LIST OF "KC" AIRCRAFT EQUIPMENT NEGATIVE WIRES.

No.	Negative line source unit	Marking	Contact to fuselage
	I. HOLD BETWEEN FRAMES 3-6 OF FUSELAGE		
1.	KI-13M plug LII-11	K-8	Starboard frame 4
2.	KI-13M plug LII-14	K-60	Starboard frame 4
3.	Invertor MA-250M	K143	frame 6, up along axis.
4.	Invertor MA-500M	K-140	frame 6, along axis
5.	Unit II-1 plug 46	AII-126, AII-127	frame 6, down port-side
	II. HOLD BETWEEN FUSELAGE FRAMES 13-18		
6.	Filter E-14A	2MI	frame 13, portside
7.	Filter CE-3000P	2SI, 2S3	frame 16, portside
8.	Starter CT-500B	5M3	frame 17, up along axi.
9.	Ground supply negative	5MI	frame 17, up along axis
10.	Relay DNI-400D	3S1	Starboard between frames 17-18
11.	Relay PT-40	7S2, 7S2-1	Relay block PT-40 frames 15-16 starboard.
12.	Relay TKE52PID	10C2	Frame 15, starboard
13.	Electric actuator M3K-2-2c	3MI	Starboard, frame 17
14.	Electric actuator YT-6D	4MI	Between frames 17-18.
15.	Engine plug LIIP-9	2SI	Between frames 18-19
16.	Regulator P-25AM	Condenser line K&M 31	Regulator attachment panel P-25AM

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FUSELAGE END

47. Item TK-60 8CI Rear fuselage cutaway portside

84. GROUNDING OF AIRCRAFT AND ITS MAINTENANCE

Grounding of aircraft is the special electrical bonding of its metal components and elements of its equipment for the purpose of ensuring constant and reliable contact with minimum transfer resistance.

All metal structures of the aircraft, the surfaces of which is $0.2 m^2$ or the length of which is 0.5 m are to be grounded.

Grounding is ensured by:

1. Special flexible bonding strips.

2. Cleaning of contacting surfaces to metallic lustre.

3. Collars and brackets

Bonding strips and grounding contacts are to be periodically checked during maintenance operations. Inspecting note presence of corrosion in contacting surfaces and tighting of attachment elements. Disconnect contact on finding corrosion, eliminate latter clean surfaces to metallic lustre. and reinstall grounding.

Note: Do not clean to lustre details', coated for resistance to corrosion, cleance with cloth dipped in benzine B-70.

2. Anodized details are to be cleaned to metallic lustre. Damaged and corroded bonding strips as well as attachments elements are to replaced by new parts.

After grounding is accomplished cover all

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2. When part is grounded by means of direct surface contact, remove part or unit clean contacting surfaces to metallic lustre and cleanse with cloth dipped B-70 benzine replace unit and tighten attachment scerws or bolts.

3. When grounding is achieved with clamp (or bracket) remove clamp and eliminate dirt, dust and coating cleanse its surface and that of cable with cloth B-70 gasoline damfened cloth clean to metallic lustre surfaces contacting with structural elements then reinstall clamp.

§5. CHECKING OF INSULATION RESISTANCE

Positive wire insulation is of great importance in a single line electrical circuit system. It is examined visually and through control of insulation resistance. This latter depends upon operation and weather conditions. With ambient air t° +5°C: + 35°C and relative humidity not more than 80% the resistance is not to be less than 8 mgohm. A fall in resistance of insulation signifies circuit damage.

1. Damage of wire insulation.

2. Presence of water or oil in plug connectors.

On noting sharp fall in insulation resistance find damage (restore insulation or replace wire), if this is not done big loss of current will occur and voltage will diminish, short circuit too may be caused.

Insulation resistance is measured with megohmeter of any model at 500v voltage.

To prepare for checking on isulation resistance of "KC" aircraft system.

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surfaces exposed after cleaning as wellas attachment joints cleaned for grounding with 17A varnish to prevent corrosion

Note: Magnesium alloy parts are grounded by means of a star-washer.

Bonding strip resistance is gauged with a microohmeter precise to 2.5.

For gauging points and allowances see fig. 6, book II of "KC" aircraft instructions on technical operation.

The gauging feeler is positioned not more than 10 mm distance to point of contact or (on flexible strip) to eng of letter.

The resistance accross moving parts is to be measured with the parts in both extreme positions as related to one another.

TO avoid damage of wire insulation appl. resistance gauge feeler

After examining coat nicks caused by gauge examiner with varnish (17A) coat magnesium alloy parts according to instructions in chapter XII.

If the resistance across bonding is above permissible:

After examining coat nicks caused by gauge examiner with varnish (17A) coat magnesium alloy parts according to instructions in chapter XII. If the resistance across bonding is above permissible:

1. Remove flexible strip clean contacting parts with cloth dipped in benzine B-70 install strip and attach firmly with screws.

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1.Open hatch covers on fuselage: below between frames 3 and 6, 14 and 18 ;starboard between frames 16 and 18 portside between frames 24 and 26 ;open hatch on fin top fairing.

2.Remove П-2 unit from aircraft .Remove cover from PT-40 relay block.

3.Disconnect from fuselage and insulate

a).Relay ЭМТ-400D negative line attached on fuselage between frames 17 and 18 starboard;

b).YT-6D electrical actuator negative line attached on fuselage between frames 17 and 18 starboard

c),PT-40 relay negative lines attached in the interior of PT-40 block,ТКЕ 52ПД relay attached to frame 15 starboard.

4.Disconnect line 2Ж2 from filter Ф-14А and insulate it.

5.Disconnect plug connector ШШ-9 (to engine) disconnect plugs from ВТ-6Ж and СД-3.

6.Disconnect cable from ИЗК-2-2с and YT-6D.

7.Disconnect plugs 11,12,15 and 14 on unit КИ-13М.

8.Disconnect supply cable connectors from invertor МА-250Ж and line К-141 from invertor МА-500Ж.

9.Disconnect plug connectors No.46,48 and 50 next to П-1 (portside between frames 5 and 6).

10.Disconnect ПШТ-13А No. 40 and41 plug connectors.

11.Disconnect plug connectors of block П-4 between frames 24 and 26.

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12.Check insulation of line 8c3 terminal on fuselage end and remove 35CC-45 signal light bulb.

13. Disconnect cable 15/2 from unit KI-12M3.

Check as follows:

1.Oscillating megohmeter handle with the speed of 120r.p.m. short circuit terminals and note zero position of pointer.

2.Connect one of the megohmeter clamps with terminal of line checked (or with plug connector) apply other clamp to fuselage of aircraft. Rotating at nomal speed (120 r,p.m.) read dial indication.

Ambient air +5°C+ 35°C and relative humidity not more than 80% insulation resistance is not to the more than 8 megohm.

Check all links in cable in the same manner.

Note: Do not check 5M1, 2M2,5M2 leads from clamps 61,96 and 63 when inspecting cable No.1 "э" from IK-63 plug connector side.

If insulation resistance of any circuit is below permissible disconnect line and check by sections.Eliminate damage on finding.

After checking replace all disconnected lines and anchor them in corresponding position. Close all hatches.

96. CHECKING WITH AIRCRAFT ENERGISED

Proceed according to book II "KC" air-

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craft technical operation instructions.

§7. PREFLIGHT PREPARATION

Preflight preparation is performed by servicing personnel with the purpose of checking serviceability of "KC" equipment.

Preflight preparation is carried out by personnel specially trained to that end in the following succession.

1. Inspect units visually, check condition of rubber shock absorbers. Check reliability of TCH-3000M generator, CT-500M starter, CT-3000P filter, fuse block DMP-400D relay, line terminal attachment, check fuse setting, and reliability of all negative line and bonding strip attachments.

2. Check bonding insulation of main aircraft components: fuselage-to-wing, aileron-to-wing, rudder-to-fin, stabilizer-to-elevator, also check all braided cable insulation resistance of all special equipment units.

Check according to §4 of this instruction.

Note: If resistance is not below the normal in different sections of "KC".

The checking procedure need not necessarily be of this §4 scope.

3. Check with aircraft energised according to chapter III of this book II of this instruction.

4. Check KI-M item operation according to "Item KI-M temporary operation instructions".

5. Check KI-M, AIIK-5B for joint work

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according to instruction indicated in 4 and 5 of this chapter.

6. TAKE-OFF PREPARATION

According to book II of this "KC" aircraft technical operation instructions."

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CHAPTER VIII

PREPARATION OF "KC" AIRCRAFT FOR FLIGHT MISSION

§1. GENERAL REMARKS

Preparation of aircraft for flight mission is comprised of three stages.

1. Preliminary preparation.
2. Preflight preparation. (alertness No. 3)
3. Take-off preparation (alertness No. 1)

§2. PRELIMINARY PREPARATION.

Preliminary preparation of "KC" aircraft for flight consists of:

1. Depreservation of aircraft (airframe, engine) and special equipment units if they were preserved separately.

2. General inspection of aircraft engine electro and special equipment units.

3. Installation of special equipment and setting of wing in flight position.

3a. Remove rigid attachment of cradle (see fig. No. 48.) and rubber padding from under regulator P-25M. Check reliability of shock absorber AD-8 and see if meets following requirements.

a). Clearance between cradle lug and shock absorber (see fig. 49) is not to less than 2mm as measured by clearance gauge.

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b).If clearance is not present replace shock absorber AD-8 with new one from S.P.I. 1:50 or 1:100.

4.Checking of work engine and its electric equipment.

5.Checking of electric and special equipment. of aircraft.

6.Three months term preservation of aircraft consists of applying lubricant coating to separate parts.

Aircraft is depreserved according to chapter II .

Special equipment units are preserved according to "AI-[illegible] item temporary operation instructions" and item ATIK-5B operation instructions."

General inspection of aircraft is carried out in the manner and succession outlined in chapter II of this book.

Engine installation is checked according to chapter VI of this book. Special and electric equipment is checked according to chapter VII of this book.

Aircraft is assembled according to chapter III.

Checking up of engine work and that of its electric equipment is carried out according to "TD-5COK engine operation instructions and brief description" and chapter VI of this book.

Work of electric and special equipment is checked according to chapter VII of this book.

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All preliminary preparation works are entered into log book of aircraft.

3.PREFLIGHT PREPARATIONS.

Preflight preparations includes

1.Depreservation after three months storage.

2.General examination of electric and special equipment.

3.Checking of work of engine and its electric equipment.

4.Checking of equipment of aircraft (electric and special).

5.Covering the aircraft and putting it into hangar.

Depreservation of aircraft and engine general examination and checking of engine work, checking of electric and special equipment is carried out according to corresponding chapters mentioned in preliminary preparation.

After inspection is accomplished re-install all plugs and covers ,slings and cover aircraft seal and store in hangar.

The preflight preparation is good for 10 days.

If the mission flight has not taken place after 10 days since beginning of preppration servicing carry out periodic maintenance operations according to chapterVII of this book.The preparation is repeated in full prior

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to next flight.

The aircraft is not to be stored depreserved for more than 10 days. For further storage aircraft and engine are to be preserved according to chapter II § of this book.

The log book of this aircraft is to bear record of all preflight service.

§4. TAKE-OFF PREPARATION.

The take-off preparation procedure is indicated in "technical operation instructions of "KC" aircraft

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CHAPTER IX.

SERVICING OF "KC" AIRCRAFT AFTER LANDING

§1. GENERAL REMARKS

See "KC" aircraft technical operation instructions", book II.

§2. AFTER LANDING EXAMINATION

Examine engine installation, wing, fuselage, tail system, control and electric and special equipment.

I. ENGINE PLANT INSPECTION

1. Open all accesses to engine units.
2. Inspect air intake for foreign objects
3. Examine engine.

Note: See chapter VI of this book.

4. Install shields on intake and jet-nozzle.

II. INSPECTION OF WING, FUSELAGE AND TAIL SYSTEM

Remove all dirt and dust from tail group and fuselage.

Make external inspection of:

1. Polysterol fairing condition.
2. Wing fuselage and tail group skin condition.
3. Wing tip attachment.

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4.Intactness of accesses and their attachment.

5.Condition of eye lugs(damage, fracture)

6.Wing -to-fuselage attachment condition,aileron hinging ,attachments joints of upper fin to lower fin, hinging of rudder and elevator.

3.AIRCRAFT CONTROL INSPECTION

Open servo-units accesses also accesses on lower fin and tail group under rudder and inspect control rods conditions,their attachment to levers, and lever attachment to unit II-4 units,and II-4 units as such;

§4.INSPECTION OF ELECTRIC AND SPECIAL EQUIPMENT

Open hatches and make outer inspection of KI-AM items units and devices. ARK-5B and units of electric equipment.

Check up on attachment of units, cables and plug connectors.

Inspect according to chapter VII of this book.

Note:If inspection does not reveal failures that took place during flight check units and instruments.

Eliminate all defects noted on inspection.

Enter all operations in log books.

Note:Preparation of "RC" for repeat

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flight does not preclude inspections [illegible] necessary on preliminary and take off preparations of "E" aircraft for mission flights.

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5. Overall number of starts with fully charged batteries-not less than 22 .

6. Cable length.

a). charging 3800±100mm

b). lead to item 5000±100mm

c). line with portable lamp 5400±100mm

7. Weight 490kg

3. CT-5K BATTERY CART OPERATION INSTRUCTIONS

CHARGING

The batteries installed on CT-5K are used by manufacturer dry (use barged and without electrolyte)

If cart is delivered with uncharged batteries fill with electrolyte and carry out first charge-discharge according to program outlined in log book and "Service regulation" supplied with each battery.

To charge and recharge batteries without dismounting item use charging cable. Plug it into receptiole on next rear wall panel and connect its other end with supply. For charging see log book 12A0-50. Control charging with voltmeter B-1 and amperemeter BA-2 installed on panel board CT-5K.

Note: When charging batteries make sure the lead to aircraft is disconnected.

PREPARATION OF CT-5K FOR OPERATION AND CHECK OF ELECTRIC EQUIPMENT OF "IL" AIRCRAFT.

To check start of engine or aircraft

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equipment

a).Bring battery cart to aircraft .

b).Uncover rear hold of cart and open hold flaps.

c).Check voltage on battery terminals (should not be less than 24 volts).

d),Cut in "Ground supply switch" on battery cart control panel.

e).Take connecting cable from rear hold of cart and plug it in connector PK-63 on aircraft and connectors on pabel of rear hold and fully tighten coupling nuts of plug connectors.

After that prepare CT-5K for start of engine for check of aircraft electric equipment. For start and check see chapter VI of this book and "TD-500K engine operation instructions and description".

See "KC" aircraft technical operation instructions" for energized aircraft equipment check (book II,chapterIII).

Caution Checking generator performance do not cut load resistance in for more than 2 min. This with 10 min intervals between cutins.

To keep record of starts turn start recording device to corresponding division .After operation record number of starts into cart log book.

REPAIR AND REPLACMENT OF UNITS

Repairing and replacing tyres and

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tyre baloons remove mud guard disengage nut from wheel axis remove wheel then repair .

2.Batteried are replaced only in case of damage or term expiry. Removi ng batteries observe fellowing succession.

a).Open front section

b).Remove clamp nuts then remove clamps.

c).Lower draw-bar to ground for this remove upper pins

d).Open front side of cart and lean it on the draw- bartransverse.

e).Disconnect tyres from clamps batteries and lines .

f).To remove batteries shift along directing slides and jettisonable side. To install proceed in reverse manner.

3.To replace illumination lamps remove reflector attached to framing by two screws.

4.To replace panel remove plug connector and two linws disengage bolts of its attachment to floor of cart then shift panel out.

5.Replacing lines units and other items of CT-5K equipment check mount reliability and correct contact by ringing according to scheme of circuit of CT-5K (fig.19).

TRANSPORTATION

THE cart is propelled either by hand

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or behind car (not more than 3 in tandem).

Adjust draw -bar accordingly in one of the three positions

a).For hand propelling draw bar is fixed with pins inserted into upper apertures in frame brackets.

b).For car propelling draw-bar is positioned with pins in centre apertures in frame brackets.

c).For in tandem transportation pins and inserted in lower apertures in frame brackets.

On transportation of cart by car, front wheel is lifted and fixed in horizontal position with special pin inserted in frame bracket apertures. When cart is in tandem of car no backing.

Smooth concrete and ground roads permit a 30 km p.h. speed of cart transportation . For cart transportation of cart beyond 20 km it is loaded on platform of car.

Loading cart lift it by four hook-shackles on four corners of casting.

CT-5K OPERATION MAINTENANCE OPERATIONS.

Operating CT-5K carry out periodic maintenance operations in following succession:

1.At least once every 15 days .

a.Remove battery from front hold of cart (see above).

b).Examine heating of battery hold condition of battery clamp attachments,tyre condition, coating and painting.

c).If corrosion is noted on metal and

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and terminal connection of the cart remove corrosion according to method described in chapter XII of this book.

d).Wipe batteries check level and density electrolyte (replenishment if necessary) cleanse vent plugs and check serviceability.

e).Install batteries in cart and connect terminals to tyres.

f).Check gauge readings on control panel also reliability of their attachments.

g).Open cover of generator load resistance, remove dust, dirt and moisture. Check contact in terminal connections.

h).Remove dust from TIC-3 panel and check its attachment to cart.

i).Examine plug connections of battery cart and connecting lead remove dust ,dirt from plug connectors without dismounting them.

Check intactness screening and guard connecting cable.

j).Check reliability of connecting cable locking device remove dust, dirt and grease screw with technical vaseline.

Note:a.If cart is not operated for more than 5 days carry out "e" and "g" every 15 days.

b).If non-operating interval is longer than 15 days then additionally recharge batteries according to "Maintenance operations" supplied with each battery.

2.At least once a month:

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a).Carry out 15 days maintenance operations.

b).Covers of rear and fro nt sections covers of control panel and reliability of locks.

c).Check by ringing out CT-5K electric circuit and wiring mount according to scheme on cart ,check condition of terminal connections and tighten them if necessary.

d).Check reliability of connection contacts on panel ПС-3.

e).Carry out control charge ,discharge of battery , complete CT-5K with batteries of same capacity.

f).Check intactness of screen traiding and guard cover of connecting cable then eliminate defects.

Not less than once every 3 months:

a).Carry out 1 month maintenance operations.

b).Check condition of heat insulation material of battery section dry if if necessary repair it.

c).Check condition of cover and kit bag of cart and repair it if necessary.

d).Examine and restore varnish coating of cart (if necessary).

e).Remove side wall of instrument block and blast with cold dry compressed air not more than 1kg.cm^{-2} pressure, also check condition of instrument block mount.

4.Not less than once in 6 months:

a).Remove instrument block from cart and check details for corrosion,unit attachment, condition of relay contacts,sensing elements, switches and plug connectors

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A3C-5 and A3C-15.

b).Check work and intactness of relay circuit , sensing elements plugs switches and reliability of their attachment.

c).Check A3C-5 and A3C-15 for operation at double rating current loading.

d).Gauge resistance across relay contacts ,sensing elements plug connectors,switches and A3C-5 and A3C-15.

Note:The across resistance of interruption contacts is to be such that the resistance falling on one pair of contacts does not surpass 130 millivolts

e).Check electric instrument gauges (veltmeter, amperemeters tachometer TG-15) for accuracy.

f).Remove panel PIC-3 from cart remove dust,dirt ,check conditions of mounts and examine details for corrosion, check collector and brush condition of time unit actuator, also of relay contacts and sensing elements.

g).Reinstall block and panel PI-3 on cart.

h).Carry out three months' periodic maintenance operations.

5.Technical servicing and periodic maintenance operations are to be carried out according to "Battery servicing regulations" (supplied with each battery)

6).Grease wheels with HK-50 (OCT 5573-50) change lubricant every 20 days.

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PRESERVATION AND STORAGE OF CT-5K

1. Carts intended for storage are to be preserved prior to which they are to be freed from dust and dirt by cleansing of all uncoated surfaces with benzine (except contacting surfaces). Apply technical vaseline VOCT 782-53 or gun lubricant VOCT 3005-51 to all uncoated surfaces (except contacting surfaces). Preservation of wheels - see 32 ("Preservation of cart and its storage") of this chapter.

2. Batteries that have not been use are preserved by means of GIITY 153-44 vaseline applied cold to projecting contacts and connecting strips. The batteries are to be plugged throughout the procedure. Cover accumulators.

Preservation term is 6 months after which the batteries are to represerved. Represervation manipulations are to be recorded in battery log books.

3. The cart is so positionedfor storage that its pneumatics do not contact with floor and remain pumped.

4. Examine carts every 3 months during storage (in places accessible to examination).

Note: Instrument block panel and load resistance casing may be removed on examination.

5. The cart is stored in cover in dry closed premises at +5° to +40°C annual to variation and at relative air humidity 80%. With batteries removed the carts may be stored at ±40°C.

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6.Preservation is not carried out during intervals in operation.

The battery is previously charged. The connections between batteries are removed .Cables kits plug connectors and other accessories are placed in rear section and cart is covered. The sterage term in this case is not to exceed 3 months.

During storage carry out periodic operations according to "CT-5K operation periodic maintenance service" of this paragraph.

§2."KC" AIRCRAFT HANDLING GEAR

PURPOSE

The handling gear is intended for:

1.Ground transportation of "KC" in airfield conditions.

2.Setting of aircraft during testsof engine work at all ratings.

3.Setting aircraft in line of flight.

4.Carrying out periodic maintenance operations .

5.Lifting and lowering "KC" aircraft.

MAIN DIMENSIONAL AND TECHNICAL DATA

Length with draw-bar	(5975±10mm
Breadth	1565±10mm
Length of draw-bar	3139±10mm
Clearance with jacks up	185 ±10mm

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Clearance with jacks down	54±20mm
Transportation speed	to 15km p.h.
Pressure in pneumatics	front wheel 3.5atm
	rear wheels 4.5 atm
Front logement stride	155±5mm
Rear logement stride	250±5mm
Gear track breadth	1350mm
Weight	400kg

3. DESCRIPTION OF CONSTRUCTION OF CART

1. Frame
2. Wheels
3. Draw-bar and front wheel control device.
4. Screw jacks with ratchet nuts.
5. Aircraft to gear attachment joints.
6. Mechanic brake (fig.2)

FRAME

The frame is rectangular and smelted from pro filed iron and tubes. The longitudinal elements of the frame are manufactured from channeled elements, the rear transversal one from pipe and the front one from angle (channeled) joint.

The pipe is the rear wheel axis. The two rear screw jacks attachments joints are located in channel bolts to-pipe attachments.

The attachment units of front wheel half , the rocker of front wheel control with draw-bar and

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front screw jack attachment unit are on the front of the frame.

The frame is supplied with lugs, one in each cover for lifting frame without aircraft. The rear lugs serve for positioning gear during test of "K" aircraft engine.

WHEELS

The gear is equipped with four craft wheels 660x160B(without brake drums). The band brake mechanism is installed on rear wheels.

DRAW-BAR AND FRONT WHEELS CONTROL.

The pipe draw -bar end is equipped with an aperture for tug hook and a pipe for manual propelling.

The front part of the draw-bar is shock mounted to alliviate all jerks an starts and sudden stop.

Springs in draw-bar pipe joints serve as shock absorbers.

The other end of the draw-bar is attached to wheel control rocker with bolt so positioned as to permit only horizontal oscillation of bar. On turning the draw-bar rotates the rocker connected to front wheel semiaxis.

Adjustment of turn-buckles permits correct positioning of wheels.

To prevent friction wear of wheel protectors against frame stops are installed on it to restrict control rocker turn (oscillation angle of draw-bar is ±31°.

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SCREW JACKS WITH RATCHET NUTS

Screw jacks serve to put aircraft into flight position for transportation and also to lift and lower the aircraft when servicing.

The lifting is achieved with nuts rotating in barrels welded to frame. The nuts are supplied with handles and ratchet type device which may be switched over to either lifting or lowering of screw.

"Up" and "down" is stamped on switch over lever.

The front screw upper end is supplied with a bifurcation for jettisonable pin inserted into aircraft -to-cart.

The bifurcation is supplied with a longtitudinal slot to compensate for differences between butt attachments of aircraft.

The ends of screws are supplied with shackles containing ball inserts to which the logement is attached.

AIRCRAFT -TO -GEAR ATTACHMENT JOINTS

The detachable front unit of aircraft-to-gear attachment is an eye bolt with logement unseparately incorporated. The eye bolt is provided with a ball inset and attached to jack with jettisonable pin.

The eye bolt moves freely on ball inset and will position as regards to front jack. It is also supplied with longtitudinal shift slot.

The rear attachment is a channel sec-

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tion logement bent to follow fuselage contour.

The logement is attached with two bolts to both rear jacks and provided with holes for special bolt attachment.

Rubber gaskets are placed on top of front and rear logements.

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MECHANICAL BRAKES

The mechanical brakes are installed along rear wheel axle and comprise the following units (fig.23).

1. Mechanical brake consisting of lever spring and special nut with sockets for lever and pins.

2. The stop drum is mounted on wheel flange and is provided with an aperture for insertion of the pin on braking.

3. To brake bring brake lever into vertical position.

4. DEVICES, SPARE PARTS AND TOOLS OF THE HANDLING GEAR

The handling gear is equipped with devices for pumping the wheel tyres and provided with coupling fitting for connection with ground supply and spare parts indicated in log book.

HANDLING GEAR OPERATION INSTRUCTIONS

Preparation for operation:

1. Clean and remove all paraffin paper from parts preserved and see no grease is left on units.after the cart is depreserved and prepared for operation.

Threaded parts of jack screws are to be left greased, remove only excess lubricant.

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Remove lubricant from accessible steel surfaces of brakes and wheel bearings with clean benzine.

After depreservation fill bearings with operation lubricant NK-50 (OCT-5573-50).

PREPARATION OF HANDLING GEAR FOR ENGINE OPERATION TEST

3. Before starting engine:

a). Lower "KC" to extreme down position.

b). Secure gear to supports with cables by car on rear axle.

Note: Cables are supplied with the gear.

c). Engage rear wheel onto brake. Lower draw-bar to earth to ensure grounding on fuelling "KC" and on testing engine operation.

MAINTENANCE OPERATIONS AND LUBRICATION DURING OPERATION

The front wheel semi-axle pins and draw-bar pins are grease packed.

The lubrication is carried out 4 times a month with injected solidol (GOST 1033-41). This is carried out through oil jerks valves by means of an injector.

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The lubrication of screws jacks is carried out 4 times a months with solidol (P OCT 1033-41) by means of lubricating the screws jack in the "up" position.

Once a month clean screw jacks with kerosene wipe dry and then lubricate with solidol.

Grease wheel ball bearings with HK-50 (73-50)

Change lubricant every 20 days.

WHEEL TYRES PUMPING

7.To pump wheel tyres:

a).Connect hose with airfield ballen

b).Remove stop valve

c).Open air supply ce ok

d).Cover fitting of injecting device with hand and adjust reduction gear PB-5M to 3±0.3 atm. For this turn butt-screw clockwise to increase and counter clockwide to diminish the pressure on reduction gear exhaust.

e).Press the fitting to wheel valve tightly and bring front wheel pressure tà 3.5 atm., the rear wheel pressure to 4.5 atm. aftwm which close valve tightly.

f).Make sure ther is no air leak through valve then cap it.

g).Shut off ground supply ball valve.

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PRESERVATION AND STORAGE OF HANDLING GEAR

8. Preserve car for storage above 12 months.

Preserve screw jacks wheels lifting device, front support hinge head, bolts of attachment of "KC" to gear and other non-coated parts.

Preservation is carried out by means of abundant lubrication of the parts with solidol "T" and subsiquent wrapping into paper which is then attached with string.

Preservation of the wheels is carried out by means of neutral technical vaseline heated to the temperature of 60-70°C. All hinged joints and all outer parts of zinc covered parts are subjected to preservation. Lubrication is carried out by means of a thin coating. The bearings are lubricated with [redacted] -201.

The gear is to be stored in closed storage premises at a +10°C temperature.

To ensure preservation of the rubber the gear is not to rest on the wheels but wooden jacks placed under longtitudinal channel bars of the frame.

The gear may be stored in storey manner i.e. one upon another but draw-bars are to be detached. The air

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is vented from the wheel pneumatics.

During storage check according to directions in chapter II of this book.

10. During storage the gear is to be kept under shed and to be shielded and from action of sun rays(it is also to be provided with wheel protectors).

For additional information see Operating Instructions ", book II.

FUSELAGE END CART

GENERAL

The fuselage end cart serves as support for fuselage end when it is detached from front fuselage.

2. GENERAL TECHNICAL DATA

Over all length with Darw-bar length	2950±10mm
Draw bar length	1250±10mm
Breadth	1415±10mm
Track	1300mm
Front screw jack travel	315±5mm
Rear jack travel	485±5mm
Road clearance	165±5mm
Weight	65.5kg

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3. STRUCTURE

The cart is a welded triangular frame with tree and turn forks for wheels which are equipped with thrust ball bearings and three identical diameter one band (200mm) wheels with rubber bands and stamped plates.

All carts wheels are controllable. The rear wheels are controlled by lever mechanism from the draw-bar the front one by swing handle.

The cart is propelled by the draw-bar the swing handle is fixed in a group installed on the frame. The cart is equipped with 3 screw jacks installed on the frame and terminating in detachable hinged heads. The head consists of an eye bolt ball input and pins. Eye bolts are engaged into pins corresponding lugs on frame 22 and 29 of fuselage end

4. OPERATION

To detach fuselage end:

1. Bring cart under fuselage end.

2. Remove eye -bolts from jacks and engage into lugs on frames 22 and 29 of fuselage end

Manipulating cart and jacks align openings jacks and inputs then connect with pins.

3. Detach fuselage end from front fuselage and draw off cart.

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4.To attach fuselage and proceed in reverse order.

4.PA-500K ENGINE CART (Fig.27)

GENERAL

The cart serves as support for the engine and as its transportation vehicle when it is removed from "KC" and may serve as its support for brief storage.

MAIN TECHNICAL DATA

a. Overall length with draw-bar	2301±10mm
b. Draw-bar	1000±10mm
c. Breadth	1202±10mm
d. Track	1050mm
e. Clearance	245±5mm
Weight	97kg

3. STRUCTURE

The cart is a welded shape iron frame equipped with special collar and journals for engine mount (Fig.28 Four paired supports are installed in its upper part. The engine rests on the front supports with its own journals of a special collar attached to the rear parts of the engine. Three brackets are attached in the lower frame to hold three wheel turn forks in which the wheels

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have free turn travel. Wheels are 200 mm in diameter with rubber bands and stamp plates. The front paired wheal of the carts is controllable. The two rear wheels revolve freely in the forks.

OPERATION

The engine is removed inthe following manner:

1. With fus lage and detached engage collar with journals on engine in its nozzle part.

2. With winch (capacity of which is not less than 700kg) lift engine and after detaching it install it on cart.

3. To mount engine proceed in reverse order.

Note: Do not mount engine on cart without collar with journals.

4. The cart with engine mounted is to be propelled only by hand on smooth concrete road to a distance not exceeding 200-250 meters.

§5. EQUIPMENT CART

The cart is intended for transportation of special equipment units in airfield conditions.

It consists of:

1. Frame

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2.Draw-bar with front wheelcontrol

3.Wheels

DIMENSIONS

Overall length with draw-bar	2698mm
Platform	950x1700mm
Track	700mm
Weight	95.5kg

§6.HANGAR TROLLEY (Fig.25)

1.GENERAL

The trolley serves as support for the front fuselage on its transportation and storage and also when itis conveyed to container for transportation by rail way.

Transportation on trolley is permissible only when it is hand propelled in hangar storage premises or in conveying it into container. Do not use under any condition tail trolley.

MAIN TECHNICAL DATA

Overall lehgth with draw-bar	5350±10mm
Bar length	2530±10mm
Breadth	1500±10mm
Track	1490 mm
Front support travel	80mm

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Operation road clearance	260±10mm
Maximum turn angle	40°
Weight	190kg

STRUCTURE

Trolley "KC" 9310-0 is equipped with rear wheel telescope legs which permit lowering of trolley when rolling it into container. Loops and eyes on frame permit its attachment in container. Places of installation of cart on screw jacks are red marked. Tray is installed on its frame.

OPERATION OF TROLLEY "KC" 9310-0

The "KC" is installed on trolley in following manner:

a. Lift "KC" with winch of capacity exceed load

b. Engage front legement belt into frame 6 lug

c. Lowering the "KC" aircraft with winch allow front legement eye-bolt ball insert hole with fork hole and connect with jettisonable pin, attached to trolley frame with chain or cable.

d). Lower the "KC" aircraft to rear legement and secure with special bolts. When used as stands for preserved steraged "KC" the trolley are to undergo the preservation procedure also.

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Lubricate generously all uncoated parts then install aircraft on trolley (use solidol "T" F OCT 1033-41). To attach use intermidiate logements.

Note: Item is installed on front logement of preservation uwithoub P.C.V. envelope with additional plastic gasket gasket attached to trolley frame.

§7. CONTAINER

The container is intended for transportation of "KC" with folded wings on railway or trailed by onto vehicle to place of destination.

MAIN TECHNICAL DATA

Length	9300± 50MM
Height	3195± 30mm
Breadth	2630 ± 30mm
Weight	2380±5%

DESCRIPTION

The floor comprises four wooden beams held together by two metal bars with lugs for lifting the container welded to their ends it is a two layer flooring of 16 mm boards 8 loops are provided in the floor for trolley attachment. Two rings are provided. The side shields are detachable and provided with shielded ventilation openings. 2 butt shields front

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and rear. The front shield is equipped with a space extended access. Both shields are provided with a door. The roof is made of three separable sections. Tar paper is applied to the roof.

Four cables 17mm in diameter connected with rings to form slings serve for lifting the aircraft. Front and rear stands serve for installation of trolley with "KC" which is placed upon them with its shape iron frame. The stands are secured with wooden blocks Planks are used for rolling the "KC" into container. The trolley is fixed to loops in floor through turn buckles attached to its eye lugs.

8. TRANSPORTATION DEVICE

GENERAL

Transportation is effected on special stand.

2. CONSTRUCTION

The stand intended for transportation of "KC" on truck platforms is a steel welded shape bar construction for conveying preserved and depreserved aircraft and equipped with detachable front and rear legements (fig.39).

When transporting depreserved "KC" the legements are detached and attached to the aircraft with bolts then the "KC" is placed on the transportation stand and secured to it with special belts.

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To ensure reliable attachment cross pieces are used. They are attached to the wing bar and front stand (with special bolts).

To transport preserved "KC" remove front and rear logement and attach to special lugs in stand. The "KC" is then mounted as indicated above. The stand is attached with coupling devices to floor of vehicle platform.

§9. MATS ON WINGS

Rubber mats serve to protect wings when "KC" is serviced.

§10. LIFTING DEVICE

1. Cross -bar for lifting "KC" without "4T -52"
2. Cross -bar for PA -50CK engine.
3. Slings for container

LIFTING DEVICE CONSTRUCTION

1. The Device for lifting "KC" without items "4T -52" and "K-450" is a welded frame with two cables with hooks on end (fig. 30)

On lifting insert hooks in lugs and eye bolt on fuselage.

2. The device for lifting engine is a T-bar with three cables and hooks attached on their ends (fig. 31).

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3.Slings for lifting the container are ring connected cables with boots.

§11.SERVICE LADDER AND LADDER

Both are steel tube frames intended for use in servicing upper parts of aircraft (Fig.33)

§12.LEVELLING DEVICE

§12.The following optical instruments and devices are used in aircraft conditions for levelling the aircraft (Fig.34,35,36).

1.Levelling instrument NB-1 (with stand)

2.Levelling ruler

3.Levelling device

4.Optical quadrant

5.Stand with chord

6. Hob

7.Chord

The above are used for levelling of the aircraft installed on handling gear. The levelling instrument and ruler serve for setting the "KC" into flight direction. This may also be accomplished with the levelling device and optical quadrant.Determination of the vertical symmetry plane is carried out with help of 2 stands and chord between the fuselage reference points. (See section XI. of this book).

Setting of "KC" into flight direction is

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S E C R E T Attachment No. 1 to
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effected with optical quadrant mounted on levelling device set on reference points of section. between frames 6 and 11.

§13. DEVICE FOR SERVICING POWER PLANT

1. Pole for roter rotation.
Fuel funnel
3. Oil funnel
4. Tray
5. Gauge bucket
6. Drain hose

2. STRUCTURE

Wood pole for rotating rotor is 2.3 meters .

Funnels bucket and tray are zinc plated iron.

Funnel for benzine and kerosene is provided with silk filter a silk net is used in fuel funnel. Hose for oil drain is durite 2T-18-15/TY
MXII1707-55.

Hose collar attached to tee fitting on fuel system of aircraft (collar-155M 18-26)

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CHAPTER XI

"KC" AIRCRAFT LEVELLING

§1. GENERAL DATA

The wing tail system and fins are stiff mounted which peroludes setting or adjustment during operation, only in cases of doubt of condition of aircraft may it be necessary to carry out control levelling.

Control levelling serves for checkin condition and position of units and instruments on aircraft according to levelling data and tolerances indicated in levelling drawing supplamented with each aircraft and in "Technical description of "KC", book I.

I f levelling disclosees deflexion or shift beyond levelling tolerances the aircraft is to be withdrawn from service.

§2. LEVELLING PROCEDURE

PREPARATION

Roll (installed on trolley) onto smooth hard area. Place four screwjacks under frame (near wheels).

Operating jacks alternatively lift trolley as that it restsonly on the screw jacks.

Note: When lifting trolley with aircraft and adjusting jack height see th at weight is evenly distributed thus avoiding defonnation of frame and instability of aircraft

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Position levelling device so as to encompass the greatest number of reference points.

2.POSITIONING IN LINE OF FLIGHT.

Set aircraft in transversal position using reference points 7 of right and left wing cantelever with help of rear jacks.

Points 7-7 are to be in the same plane. Achieve position of line of flight along longtitudinal axis i.e. elevation of 110 mm of point 1 above point 2.

This is done with the help of trolley front jack levelling rule and device according to points 1 and 2 of fuselage portside.

After setting aircraft in longtitudinal direction see the transversal positioning is not displaced if so,adjust with jacks then check longtitudinal position.

Proceed thus untill be th the transversal and longtitudinal positions are correct.

3.WING LEVELLING

To check wing cantelever adjustment control reference points 7-7 and make sure they are on the same plane.Check dihedral angle and find elevation difference between points 7 and 11 of each cantilever,it should be 79,5mm after which check angle of attack of each cantilever: first on root levelling points 6 and 9 which are to be on the same level then on tip levelling points 10 and 13 when point 10 is to be above point13 by 14.5mm.

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4.STABILIZER LEVELLING

To check for cants level points 16 on right and left halves of stabiliser,they are to lie in the same plane.

Then check stabilizer setting angle levelling points 14 and 15,16 and 17. Point 14 is to be 41.5mm above point 15,while point 16 is to be 28.5 mm above point 17.

Repeat levelling on the other half of the stabilizer.

5.CHECK OF FIN SETTING

To check fin setting for sag and deflexion carry out following preparation:

1.Remove leveller from its easel-stand and replace it with teodolite.

2.Position teodolite with stand two three metres behind aircraft and one meter to the left of its longtitudinal axis.

3.Position levelling rule into point 4 (top of front fuselage);keep rule horizontally perpendicular to longtitudinal axis of aircraft with divisions towards theodolite.

4.Direct theodolite towards rule and turn latter in horizontal plane on pivot to 90°Z from perpendicular. Note minimum number of millimiters from point 4 to teodelite hairocross.

5.Relocate rule to point 5 and hold it horizontally perpendicular to aircraft central line.

6.Without shifting horizontal limb

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of theodolite ,move theodolite object lens along vertical plane until rule divisions appear in field. of vision,then turn rule 2-3 times as described in point 4 and take readings of minimum number of division on rule which is the distance of point 5 from teodolite hair-cross.

If the axis of the teodolite is aligned with that of aircraft these measurements are to be the same (the dimentional magnitude is of no importance).

If these two measurements give different distances inmillimeters revolve teodolite around its vertical axis both ways and relocating rule from point 4 and 5 and vice versa achieve identical measurements.

This done, it may be considered that vertical plane of teodolite is parallel to that of teodolite is parallel to that of aircraft vertical centerplane. Then proceed to measure cant and deflexion of fin.

For this:

1.Apply levelling rule to point 18 on leading edge of fin and hold it horisontally perpendicular to aircraft axis.

2.Oscillating object lenses of teodolite in vertical plane direct it on rule, then read and note distance of point 18 to hair-cross in millimeters.

3.Holding rule in same position relocated to point 39 on fin leading edge.

4.Direct teodolite towards rule and record distance of point 39 on fin to teodolite hair-cross. The distances from points 18 and 39 to hair-cross should be the same if fin is positioned correctly.

5.Keeping ruler in same position re-

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place it into point 19 then point 42 on side surface of fin.

6.Measure distance of points 19 and 42to hair-cross.

If fin is correctly positioned the distance to point 19 is to greater than to point 42 by 3 mm.

Then check deflexion fin for which:

1.With rule in same position check difference in measurements between points 18 and 19 and hair-cross. It should be 19.5 with fin correctly set.

2,Check difference in measurements between points 39 and 42 it should be 16.6 mm with fin set right.

This may be considered to terminate control levelling of "KC" aircraft.

The levelling measurements here are indicated without tolerances. For nominals magnitudes of tolerate deflexion from nominals and also actual technical deflexions, see levelling scheme each supplied with each aircraft

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CHAPTER XII

DIRECTION ON ELIMINATION AND PREVENTION OF CORROSION

§1. ALUMINIUM ALLOYS . SIGNS OF CORROSION

1. White and grey spotting on surface of parts and also appearance of hardly perceptible pitting which on skin may looklike black dots.

MAGNESIUM ALLOYS

2. Corrosion is present when there is bulging of varnish coating and appearance of moist alkaline rash of dirty white colour.

STEEL AND CAST IRON

3. Corrosion is marked with appearance of orange-brown colour, when advanced it will take aspect of brown and black colour.

When not properly stored the steel surface of details which have been oxidised quickly coat with corrosion, spotting and dotting which differ in colour from surface but slightly.

COPPER ALLOYS

4. The corrosion here is of green and seldom of black colour.

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CADMIUM, ZINK, VARNISHED AND COATED DETAILS

5. Cadmium and zink plated varnished and coated details coat with white grey and black colour. When the basic metal is corroding then the colour will be characteristic of the metal. The varnished surfaces first bulge then peel when corroding.

ELIMINATION OF CORROSION PRODUCTS AND PREVEN/-

TION OF DEVELOPMENT OF SUCH

1. Parts the operating characteristics of which have not been altered by corrosion are subject to special processing which consists of elimination of corrosion products and prevention of its further development. Remove lubricant coating from surface with benzine or cleaning solvent prior to removing corrosion.

Remove varnish with remover or acetone from surface subject to processing. Cleaning corroded surfaces does not necessarily imply removal of all corrosion marks, it will suffice to do away with the products.

ALUMINUM ALLOY DETAILS

2. WHEN CORROSION OR damage is noted on frame and skin protected only by oxide film.

a). Remove varnish coating with remover "CD-" (to prevent quick evaporation of remover cover it with wax paper or oil cloth).

b). Cleanse corroded area with clean cloth moistened in B-70 benzine.

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c).Remove corrosion products with hard hair grass or bristle brushes if that is incufficient use fine abrasive dust applying it with benzine moistened cloth

d).Remove products then dry with clean cloth.

e).Ground cleaned surface with 2 coats of AP-3a with help of sprayer of brush. The first layer is to contain 15% aluminum powder and is to dry for 2 hrs at t° 12-30°C the top layer for 3 hrs at the same temperature.

f).Film grounded surface with enamel XB-164 2% aluminium powder the top layer is to contain 15% varnish 9-32. Dry both layers at t° 18-40°C for 4 hrs.

3.If damage (not corrosion) deteriorates only the varnish coating leaving oxide film intact,then coatrem follows

a).Slightly clean varnish coating with No.220sand paper taking precautious not to damage oxide film.

b).Dry with cloth soaked in benzine B-70.

c).Ground with 3AP-3a layers (include 2% aluminium powder into top layer) dry according to point 2 "e".

d).Apply two layers enamelXB-16 1 st layer with admixture of 2% aluminium powder top layer with 15% varnish 9-32 them dry according to point 2 "f". Apply only 2 XB-16 enamel layers if varnish coating has been damaged down to ground.

MAGNESIUM PARTS

4.When corrosion is noted on magnesium

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alloy parts coated with oxide film and varnish coating.

a).Remove coating with file or No.220 sand paper on damaged area framing it 5:10mm extra cleaned space.

b).Carefully remove all corrosion produwts using sand paper and file.

c). Cleanse carefully processed area with benzine B-70 and dry with clean-dry cloth,

d).Apply two coats of AK-10e with sprser or brush and dry for 3 hrs at temperature of 5-12°C or 2 hrs at temperature not above 12°C (add 2% aluminium powder to 2 nd layer)

e).Apply two coats of enamel as indicated in 2 "f".

5.Renew varnish coating if it has been damaged (not corroded)

a).Clean edges of damage with sand paper avoid damaging oxide coating.

b).Wipe with clean cloth soaked in benzine then with dry cloth. Then go through prodedure indicated in "d", "e" of 4 in this section.

6.Restore varnish coating in following manner:

a).Clean damaged area with sand paper 220,taking care to avoid damage of oxide coating.

b), Wipe with B-70 benzine soaked cloth

c).Ground with 2 films of AK-10e as indicated in paint 4 "d" of this section.

8.If varnish on surfaces not easily accessible has been damaged cover deteriorations with thick

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layer of gum grease.

STEEL PARTS

8. If corrosion is noted on zinc cadmium plated steel parts.

a). Cleanse area with B-70 dipped cloth

b). Remove corrosion products with grass hair or bristle brushes if insufficient use sand paper No.170.

c). Wipe with clean cloth soaked in B-70 benzine.

d). According to 2 "a"

e). According to 2 "f"

9. On noting corrosion on coated steel parts

a). Use remover "CD" to removevarnish.

b). Remove products as indicated in point 8

c). Wipe dry the part.

d). According to 2 "f" and "e".

10. Zink or cadmium plating is corroded:

a). Cleanse part with B70 benzine.

b). Coat with MBII vaseline oil then dry part.

11. If corrosion is noted on attachment bolts where access is difficult cover them with thick layer of technical vaseline or if they are corroded significantly replace them.

COPPER ALLOYS

a). Clean with sand paper No.220

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b). Cleanse with cloth soaked in benzine which does not contain antidetonater.

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CHAPTER XIII

COVERING AND SEALING OF "KC" AIRCRAFT

§1. GENERAL REMARKS

The "KC" aircraft when transported stored on technical areas in ready-for-flight condition is to be covered when not under repair or maintenance service.

The covers are intended to protect to "KC" aircraft from atmospheric depositts, dust, dirt and sand and when it is preserved, from mechanical damage of P.C.V. film.

The same covers are used for both the preserved and depreserved aircraft. The "KC" aircraft is complete with cover for wing and frontfuselage and fuselage end with tail group.

The ready-for-flight "KC" aircraft is also covered with tarpoline cover.

§2. COVERING PROCEDURE

Prepare outer fuselage surface check conditions of accesses and presence of the necessary plugs shields and covers. Also checkseals.

2. Prepare covers check conditions. Free from all sand dirt dust and foreign objects.

3. To cover front fuselage with wing two three of servicing personnel stretch cover from front taking care to avoid skin damage from cover contact with fuselage due to stone or sand particles accidentally present on the cover.

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The aircraft covered smoothen folds and untutten cover below for attachment to handling gear or transportation vehicle.

Check position of lugs as regarded to apertures in top of cover and button above them.

4.The fuselage end bring cover above and put it over the tail group.then lift rear part of cover and protect fin and stabilizer.

Smoothen folds and lace up the cover to elevator trailing edge then lace along bottom up to butt joint.Then lace up the two parts of it.

3.SEALING

For control of intactness of the aircarft wire lock lacing ends and cover butt joints and seal so as to perelude access under the cover without breaking seal.

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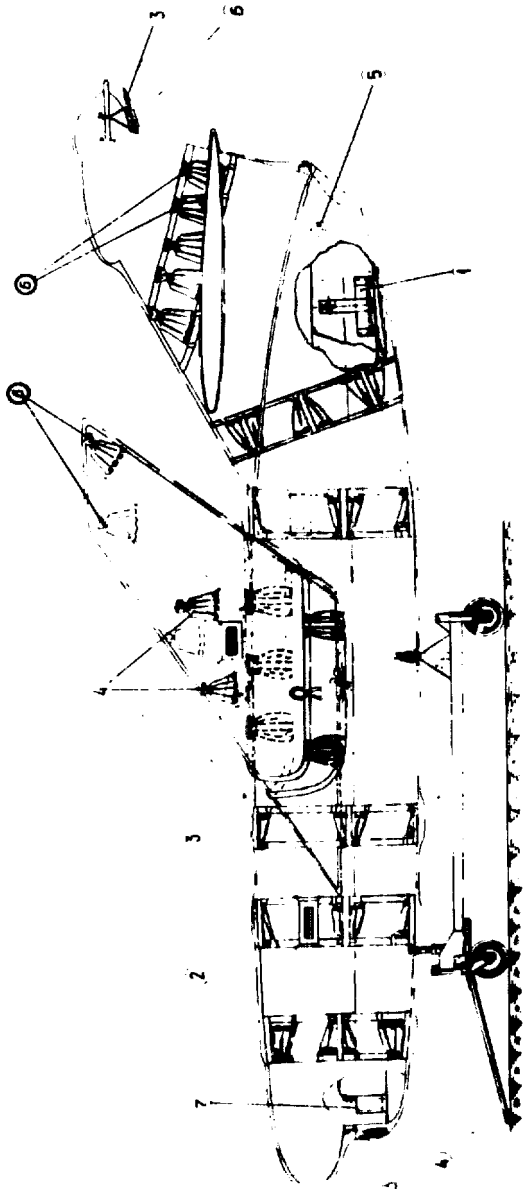
ILLEGIB

Diagram of silicogel sacks distribution on item.



1. Box with silicogel-absorber in engine extension pipe.
2. Belt with silicogel-absorber sacks.
3. Humidity-indicator.
4. Silicogel-absorber sacks.
5. Air admission opening on film cover.
6. 2-layers cotton sacks.
7. Silicogel-absorber box in air intake.

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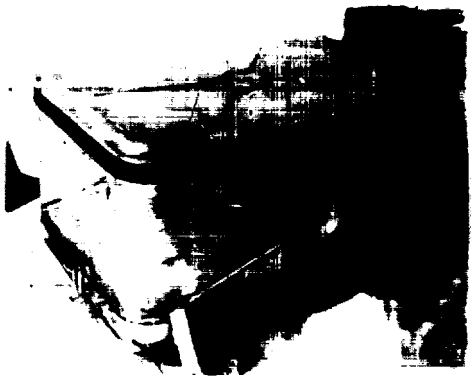

Fig.2. AIRSTRIP LACKING MINE CHAMBER [illegible]

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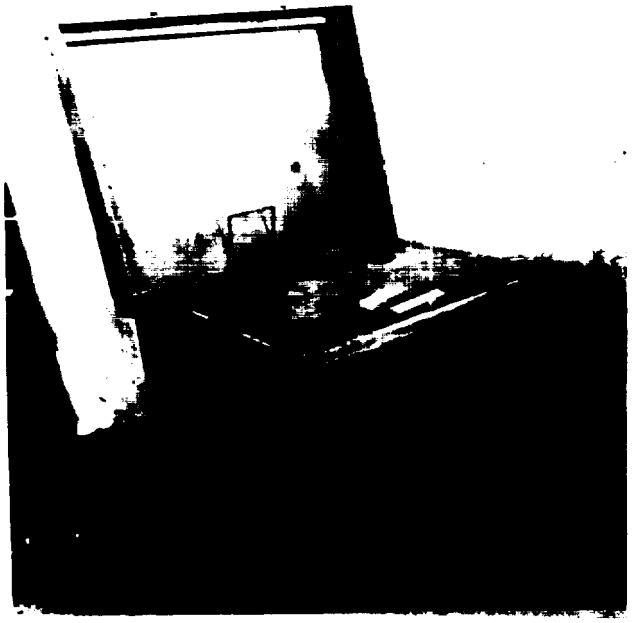

Fig.3. AIRTIGHT PACKING WITH CRADLE KI-O AND UNITS IN CASE

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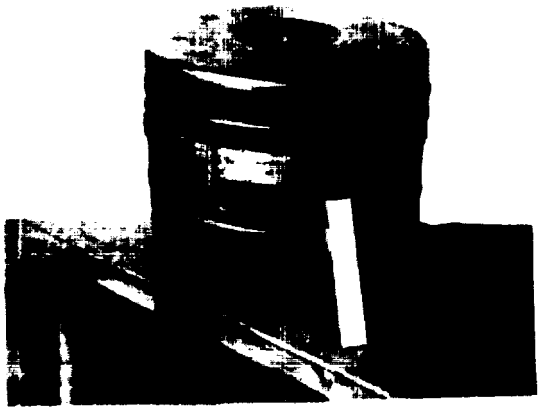

Fig.4. KI-12MF UNIT IN AIRTIGHT PACKING

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25X1

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25X1

Fig.5. AIRTIGHT CASE WITH UNITS KI-12MP PACKED

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ILLEGIB

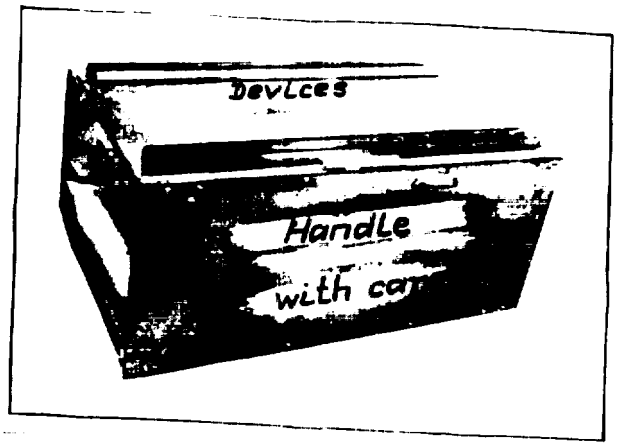

Fig.6. AIRTIGHT CASE WITH II-2 UNIT

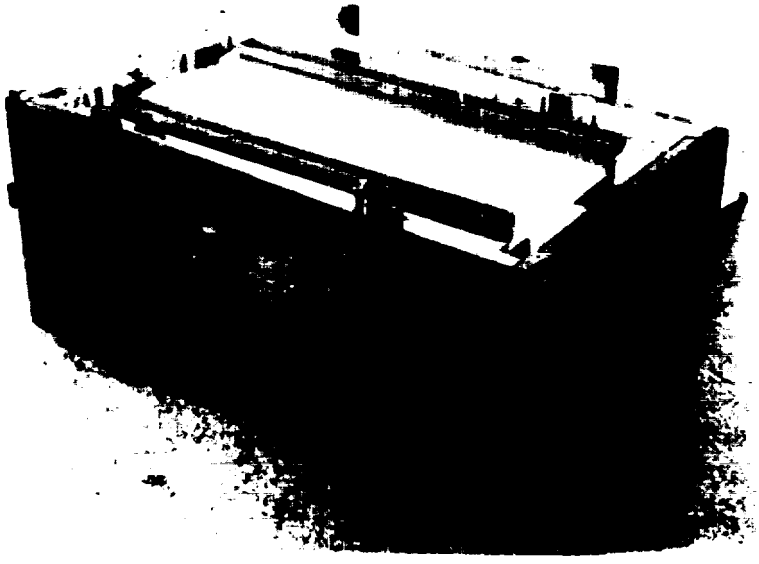

Fig.7. AIRTIGHT CASE WITH II-2 IN PACKING

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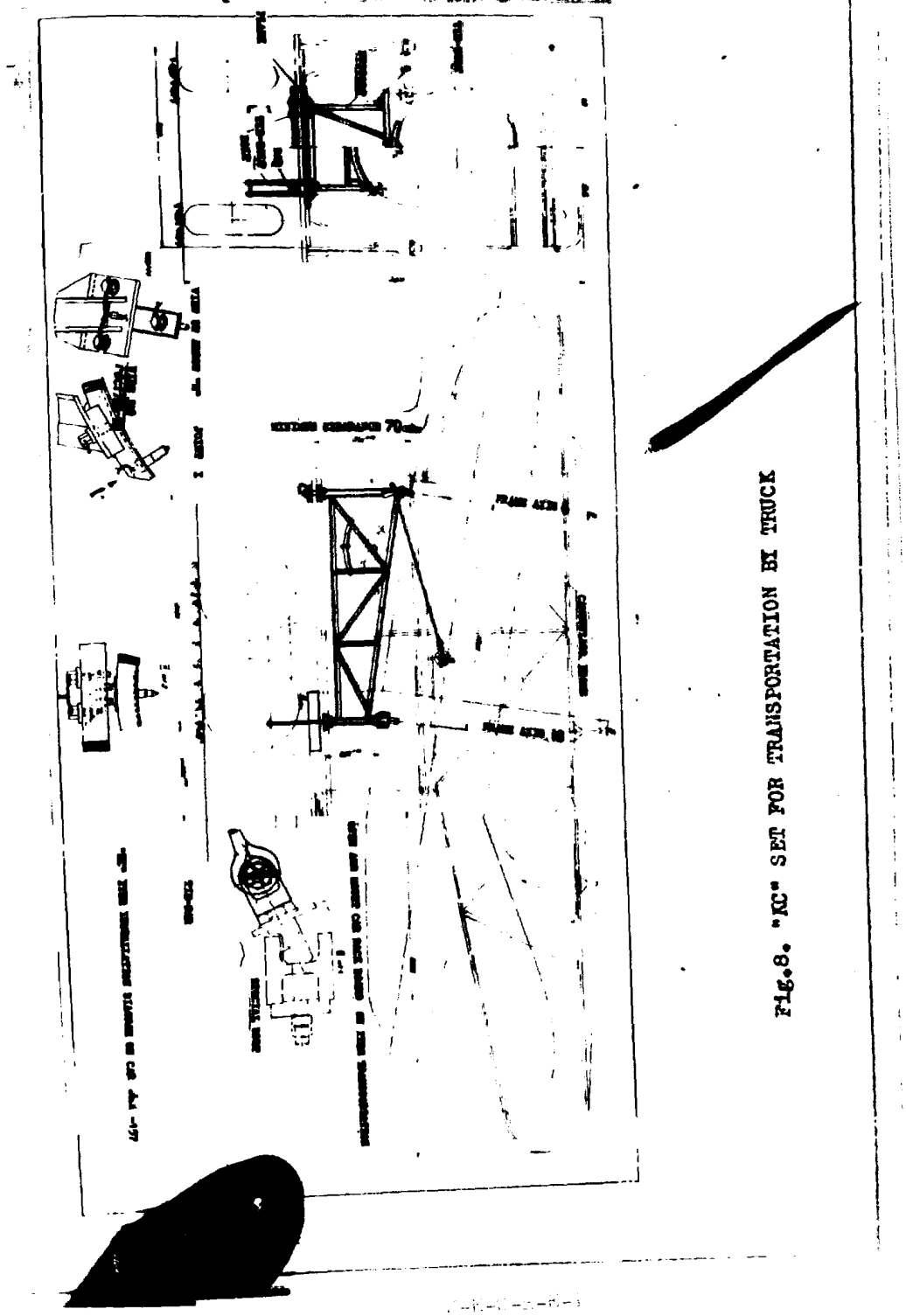

Fig.8. "KC" SET FOR TRANSPORTATION BY TRUCK

25X1

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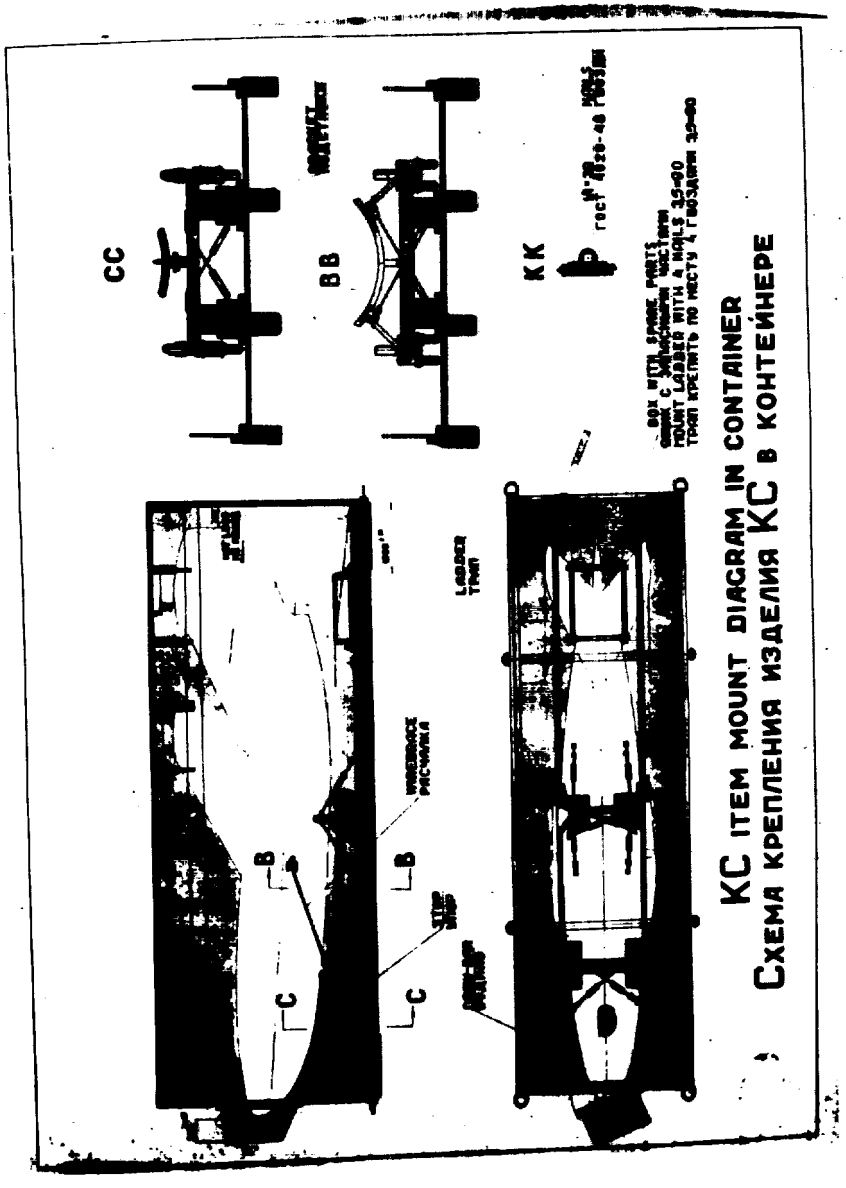

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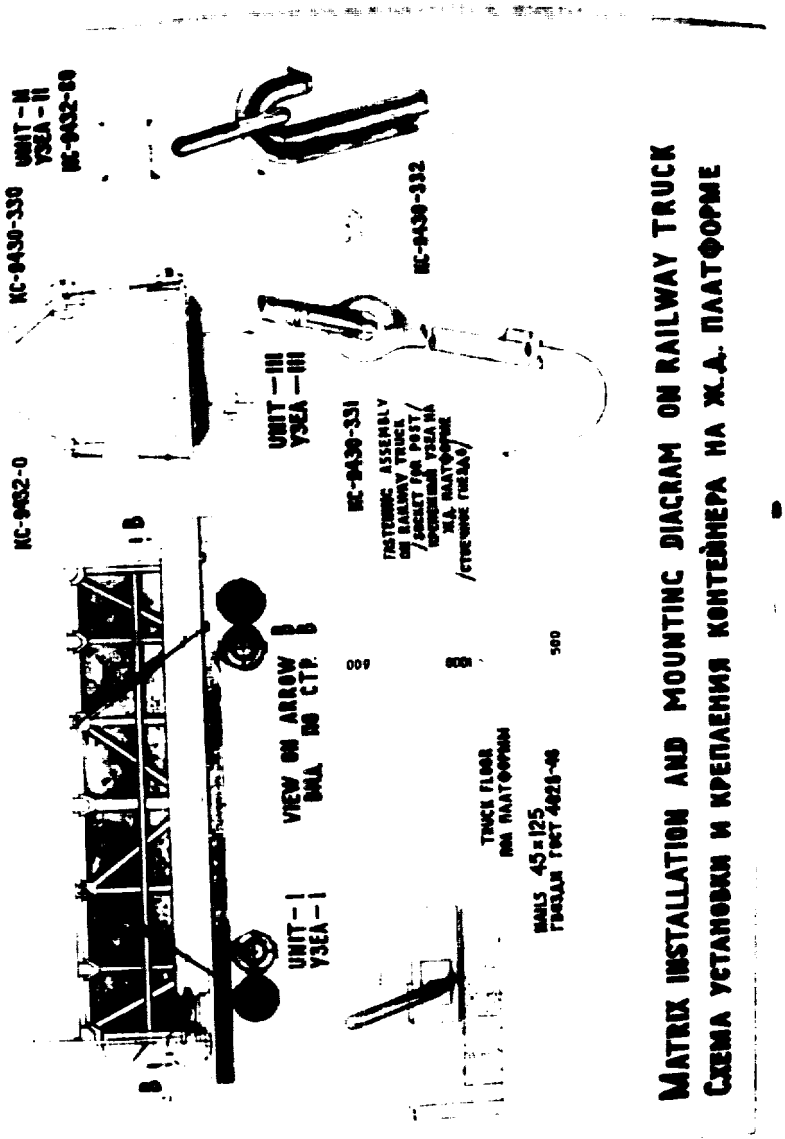

MATRIX INSTALLATION AND MOUNTING DIAGRAM ON RAILWAY TRUCK

СХЕМА УСТАНОВКИ И КРЕПЛЕНИЯ КОНТЕЙНЕРА НА Ж.Д. ПЛАТФОРМЕ

Fig.10 MATRIX INSTALLATION AND MOUNTING DIAGRAM ON RAILWAY TRUCK

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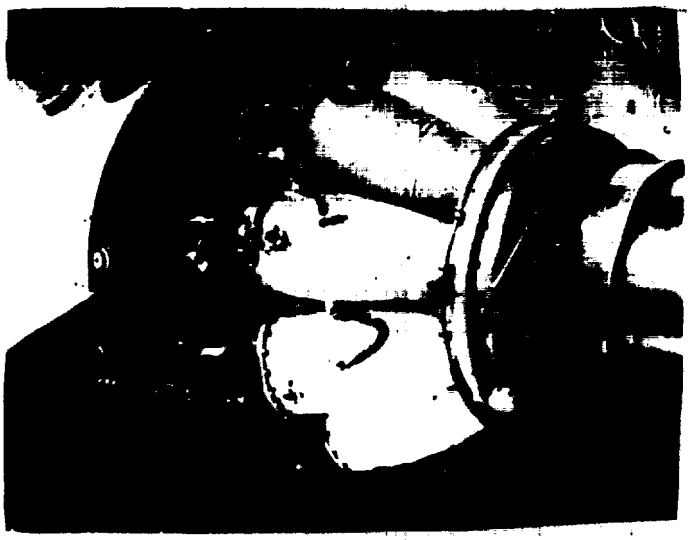

Fig.11. ENGINE SUSPENSION
SUSPENSION FRONT UNIT
SUSPENSION REAR UNIT

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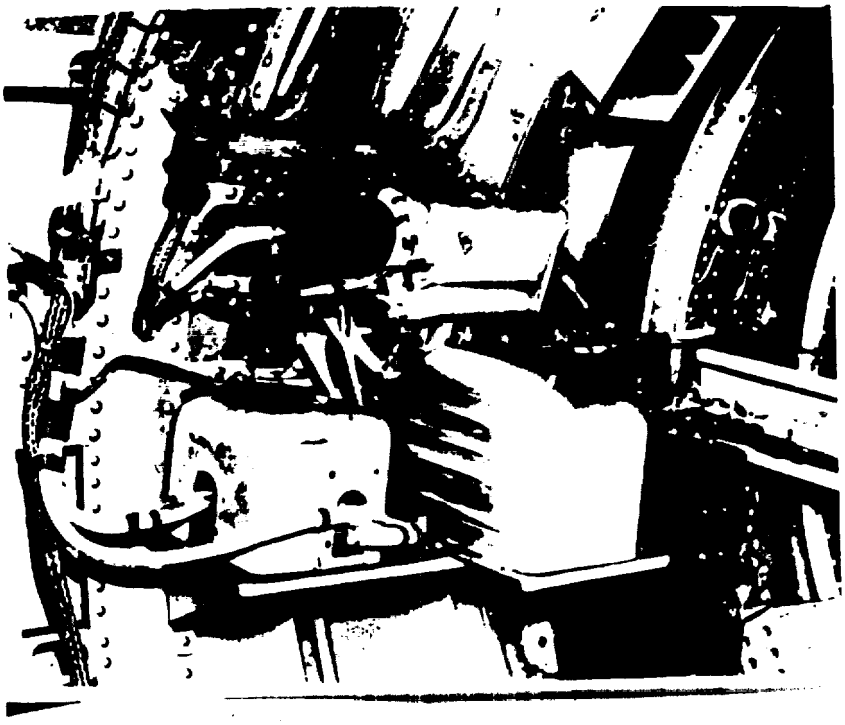
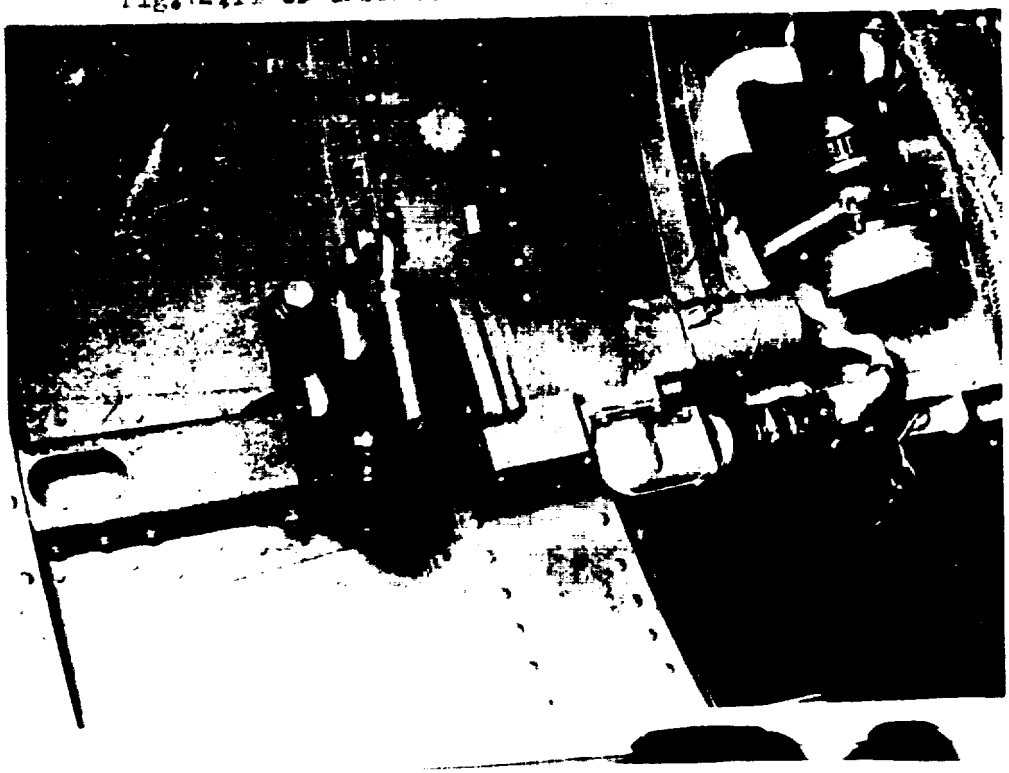


Fig. 12, YT-6L INSTALLATION



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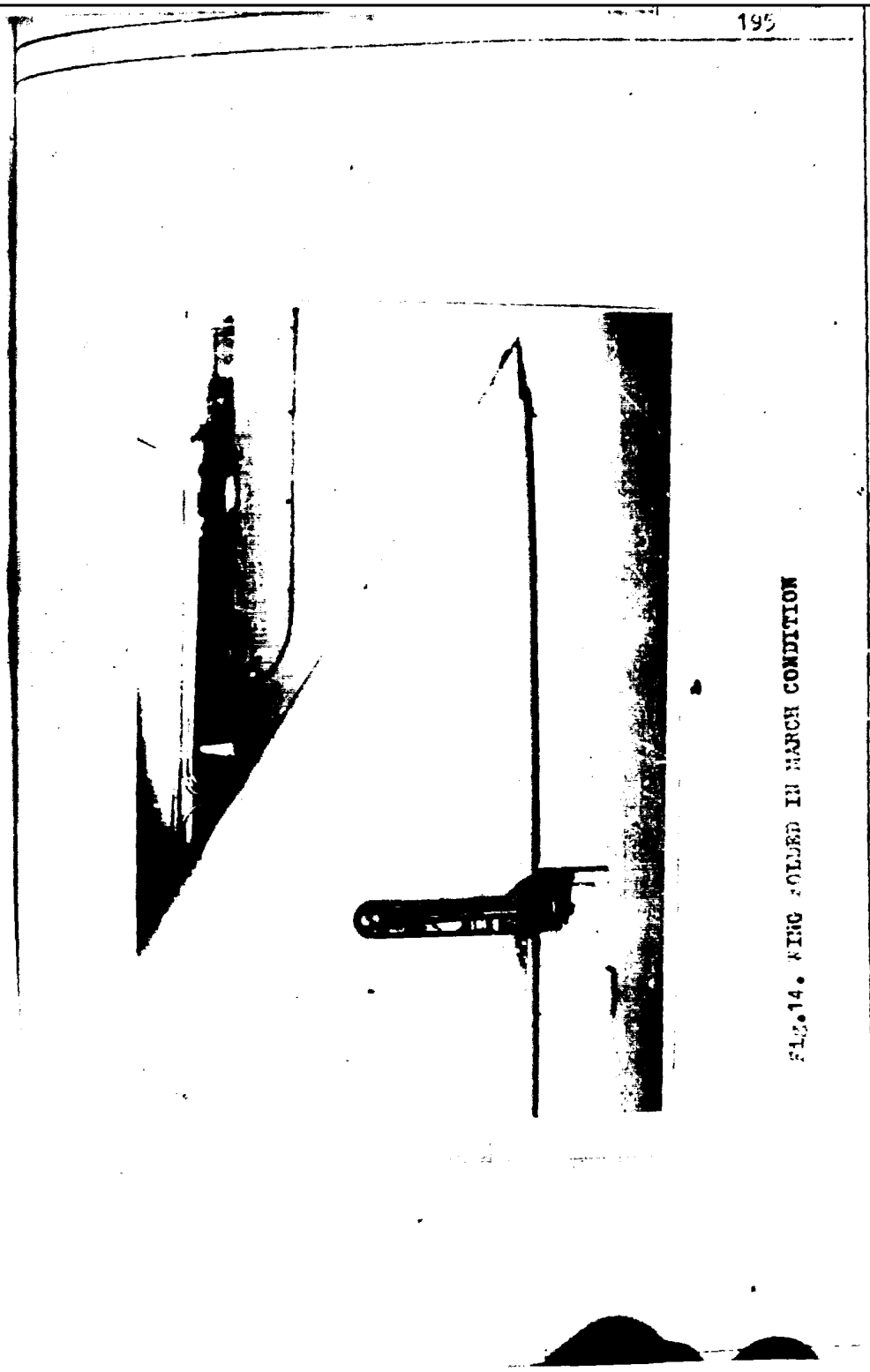

FIG. 14 • KING SOLDER IN MARCH CONDITION

25X1

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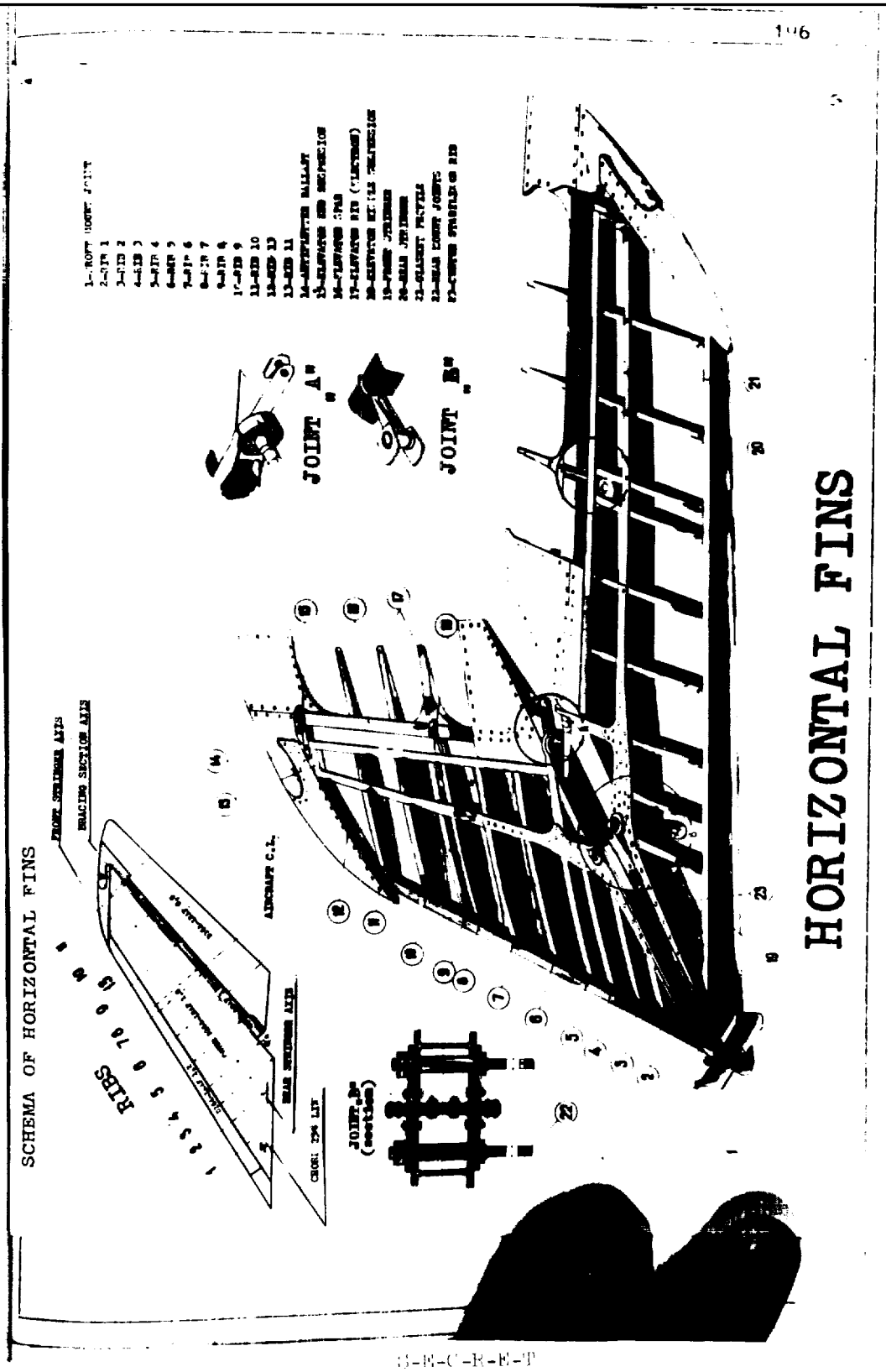

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Approved For Release 2004/01/16 : CIA-RDP78-03066R000200140001-3

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VERTICAL FINS

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25X1

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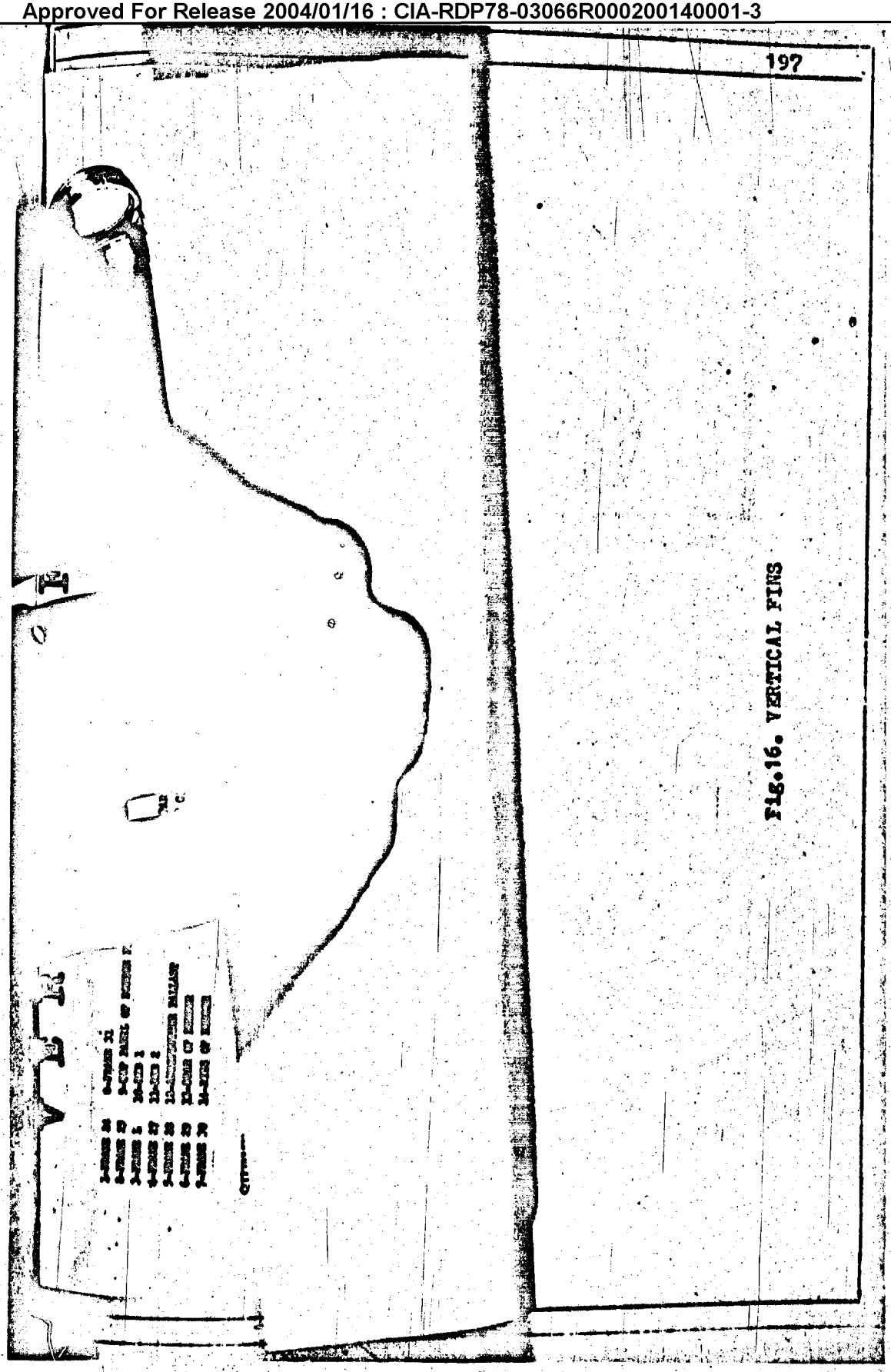

Fig.16. VERTICAL FINS

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Approved For Release 2004/01/16 : CIA-RDP78-03066R000200140001-3

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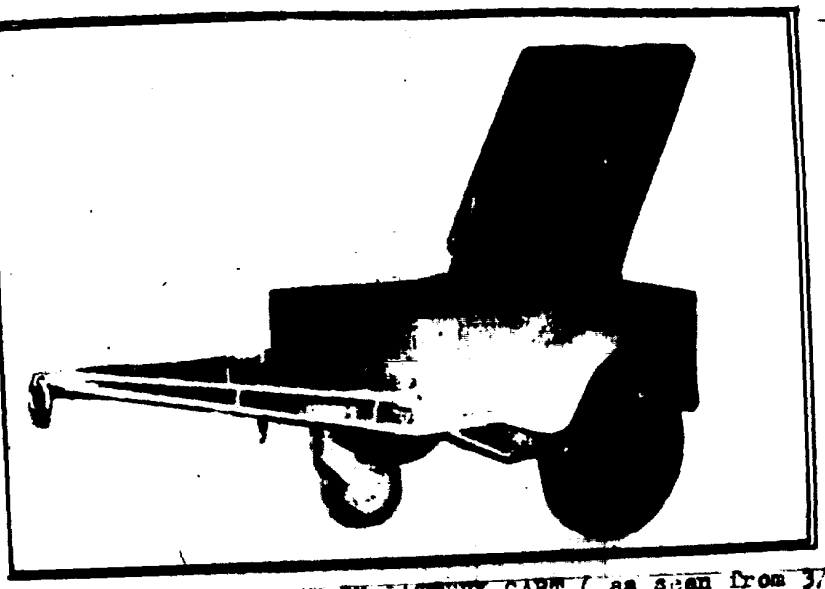

Fig.17. CT-5K BATTERY CART (as seen from 3/4 front view)

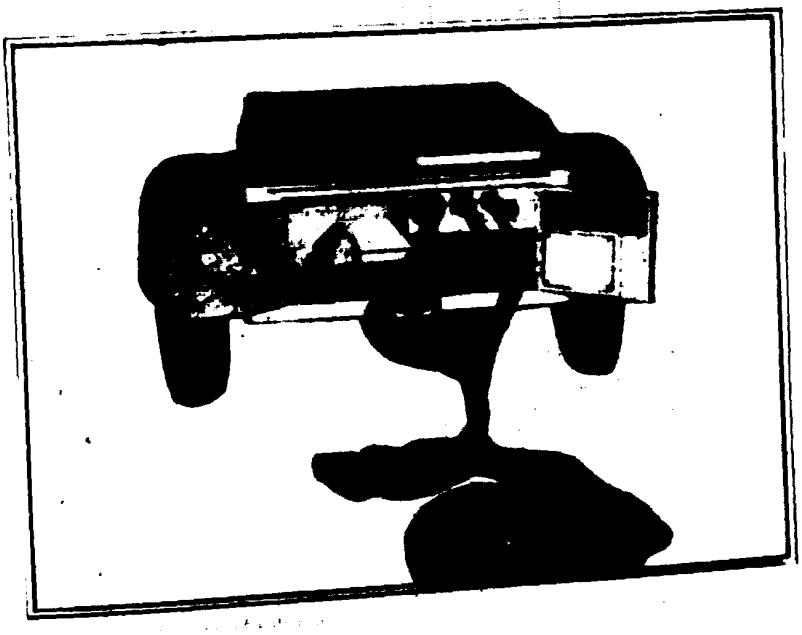

Fig.18. CT-5K BATTERY CART [illegible]

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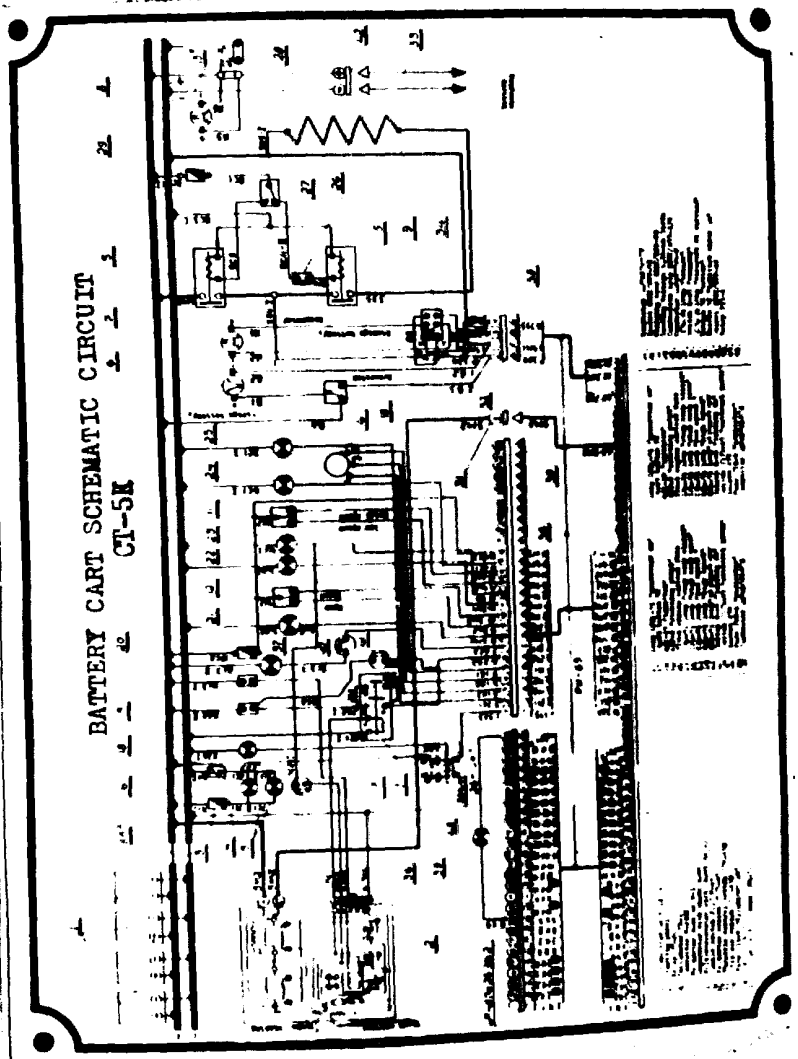

Fig.19 CT-5K BATTERY CART SCHEMATIC CIRCUIT

25X1

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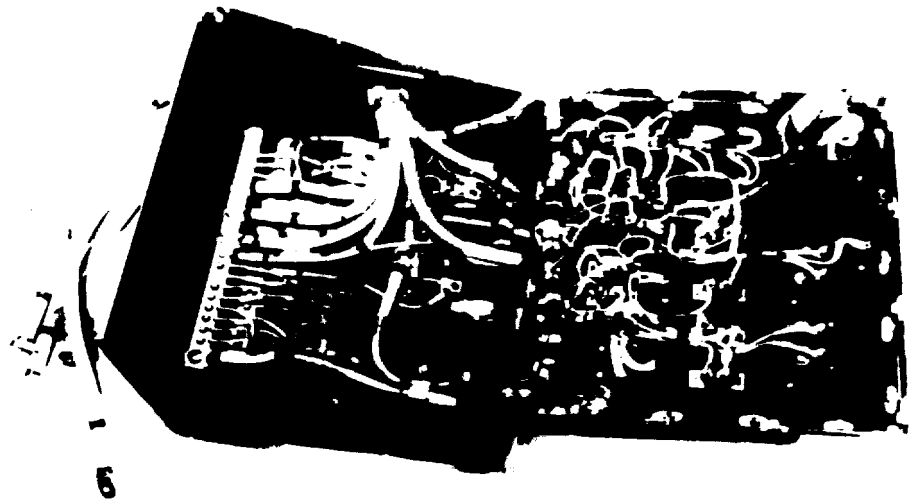

Fig.20. [illegible]

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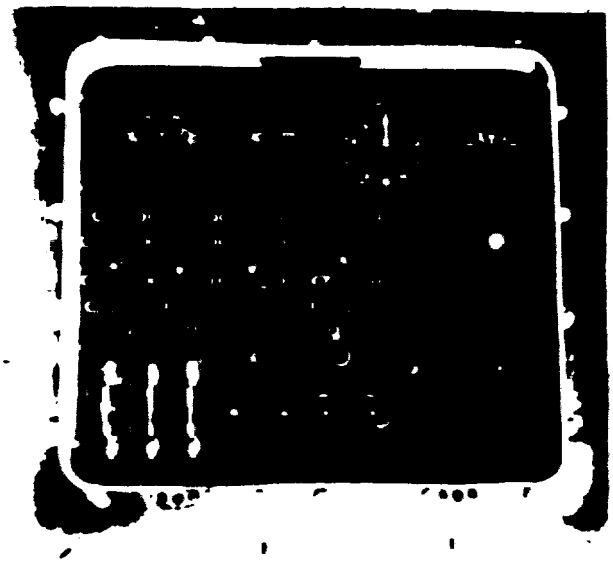

Fig.31. CT-3 [illegible] CAPS FOR L [illegible]

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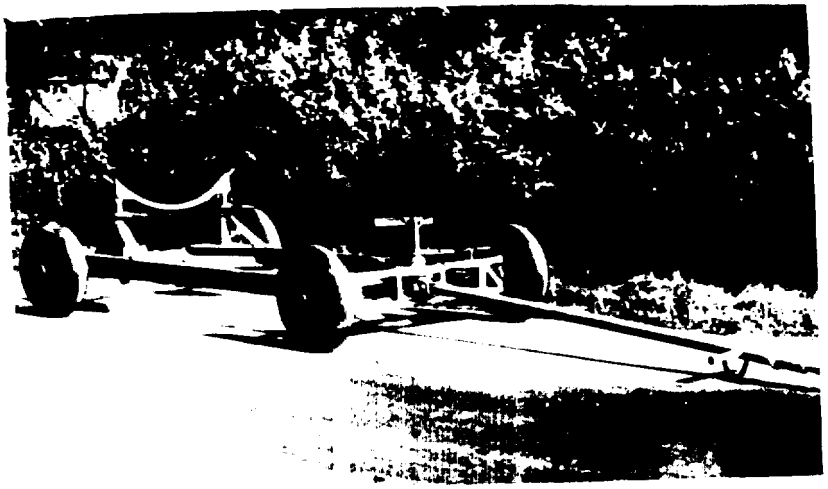

Fig. 22. HANDLING GEAR

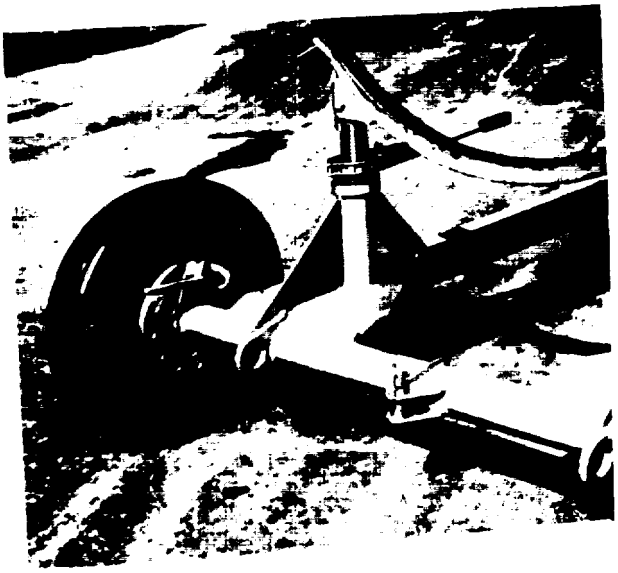

Fig. 23. [illegible] HANDLING GEAR

25X1

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Fig.24. EQUIPMENT CART

25X1

25X1

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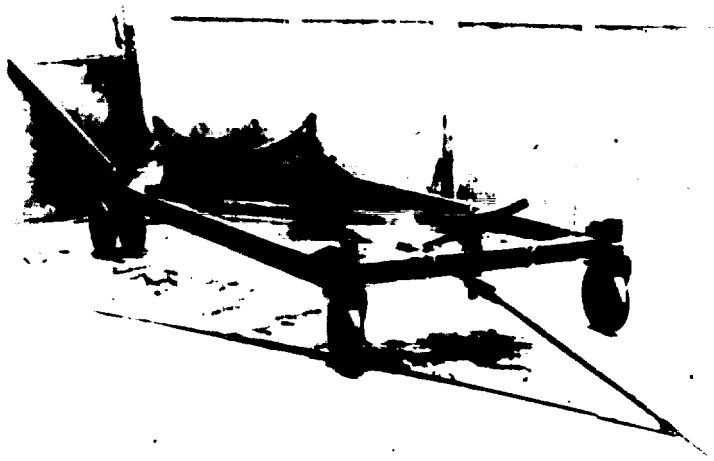

Fig. 25a 3/4 FRONT VIEW. HANGAR TROLLEY KC 9310-0

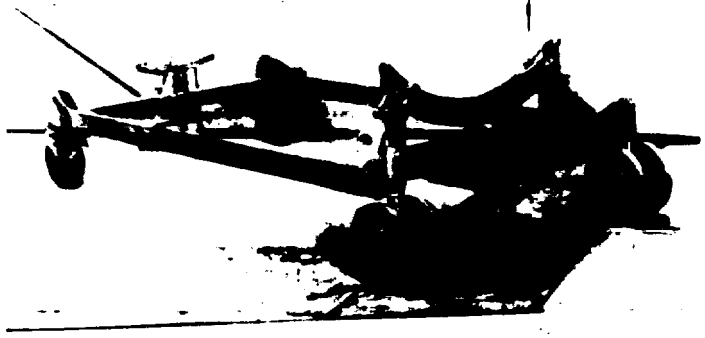

Fig.25b 3/4 REAR VIEW
HANGAR TROLLEY KC 9310-0

25X1

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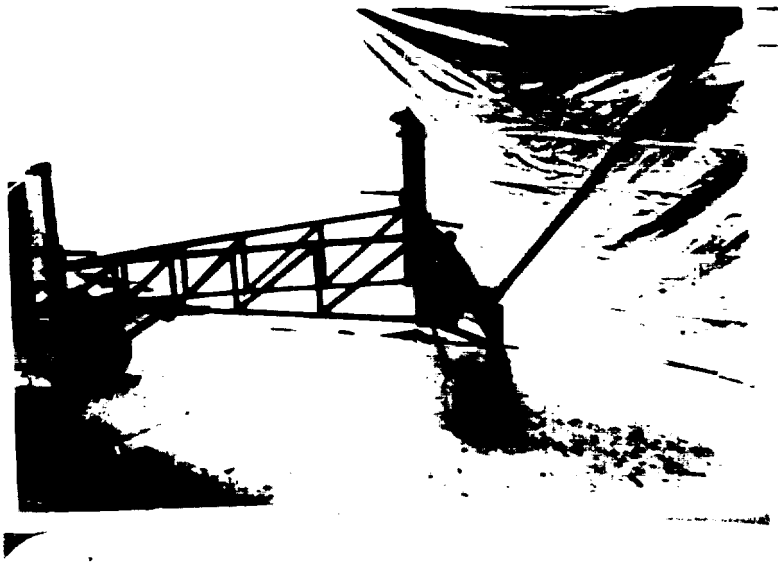

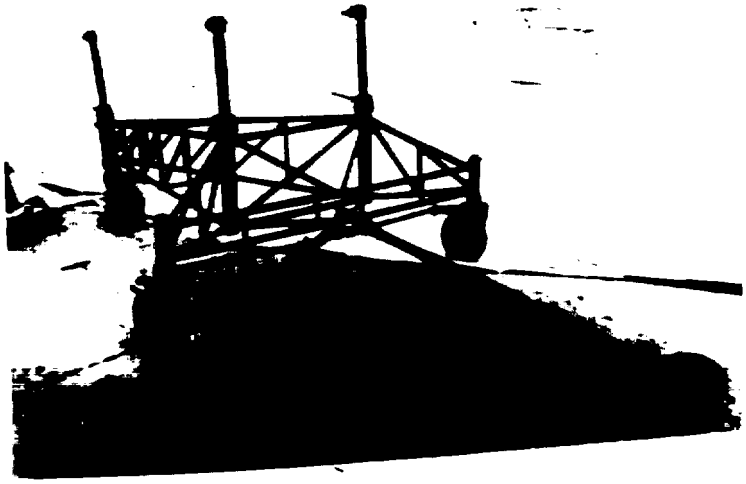

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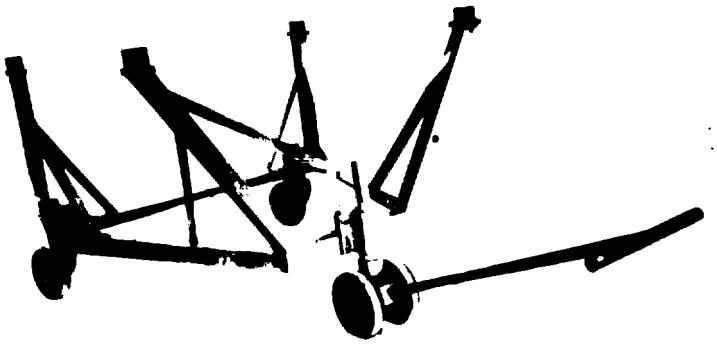
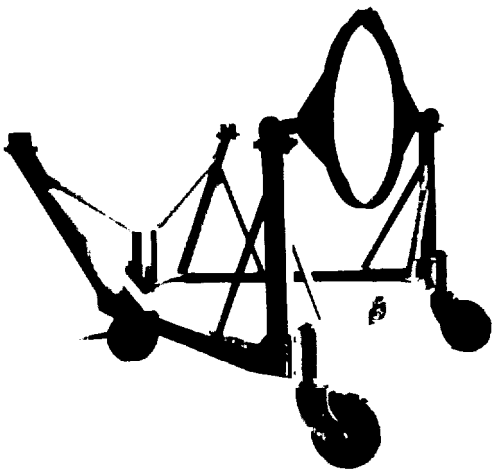


Fig.88."PD-500K" ENGINE CART



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25X1

Fig.30. DEVICE FOR TRANSPORTATION ON TRUCK

25X1

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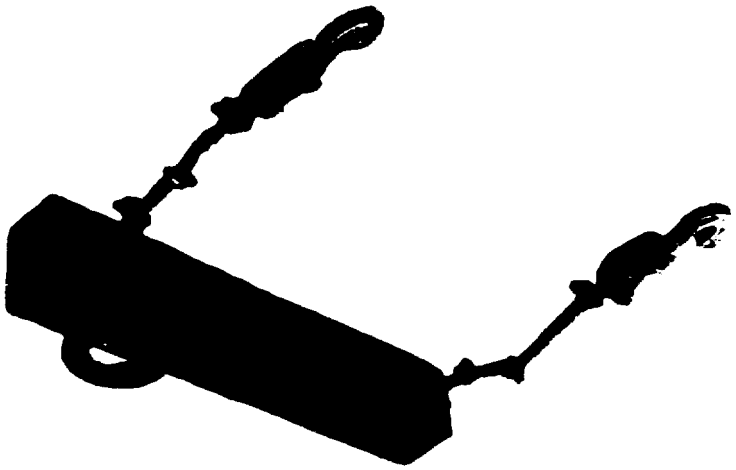

Fig.31. CROSSHOOKS FOR LIFTING "KC" [illegible]

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25X1

Approved For Release 2004/01/16 : CIA-RDP78-03066R000200140001-3

25X1

Fig.32. CROSSPIECE FOR LIFTING ENGINE

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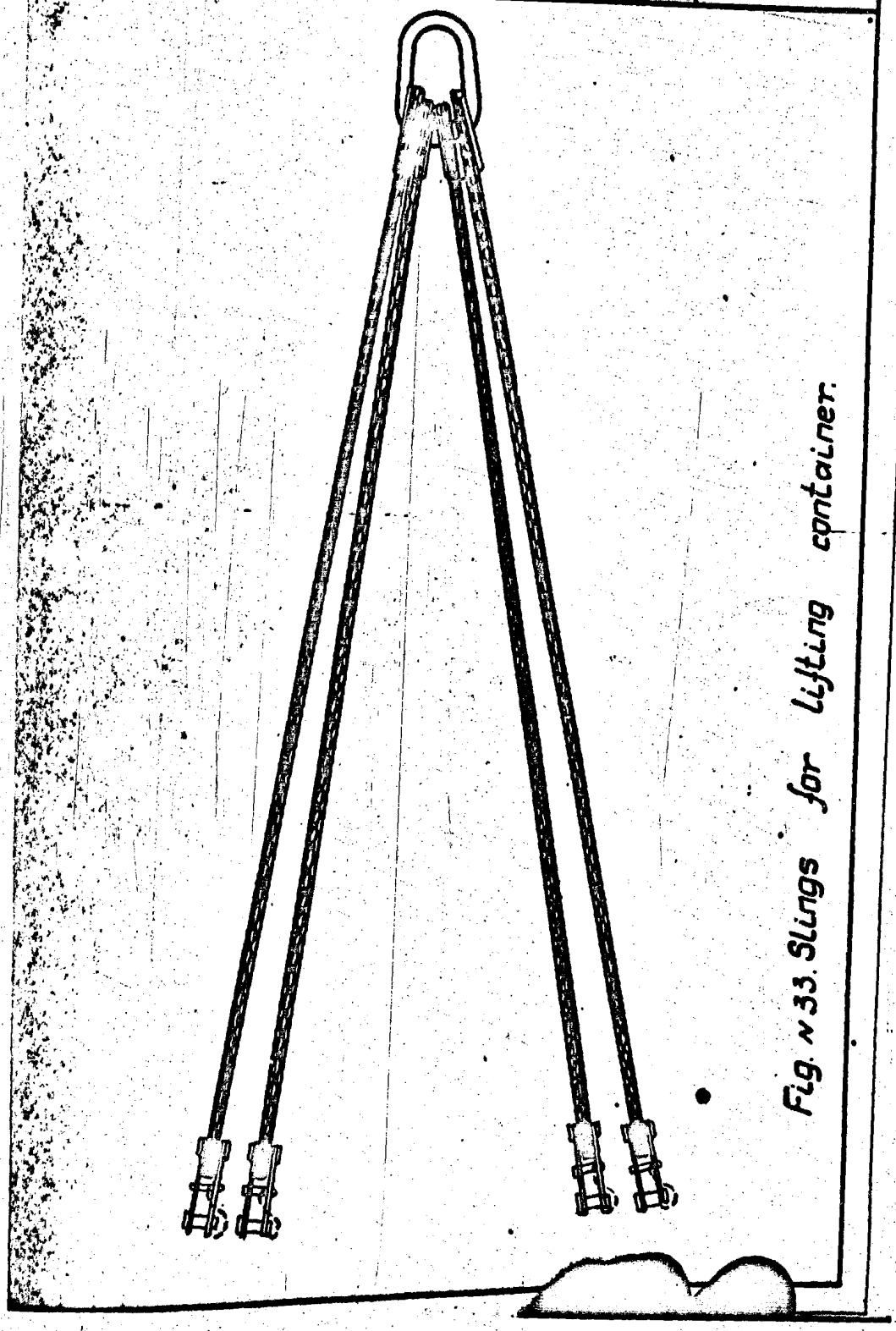

Fig. № 33. Slings for lifting container.

25X1

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25X1

Fig. 34. SERVICE LADDERS AND LADDER

S-E-C-R-E-T

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Approved For Release 2004/01/16 : CIA-RDP78-03066R000200140001-3

25X1

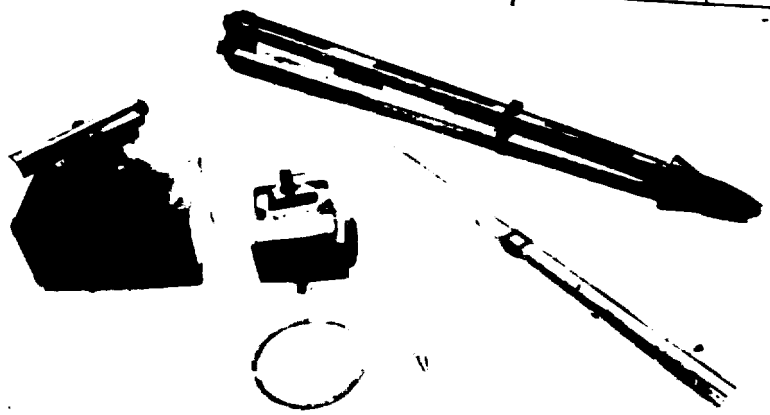

Fig. 5. LEVELLING DEVICES
1. Levelling instrument
2. Optical quadrant
3. Levelling ruler
4. Nob
5. Chord
6. Stand

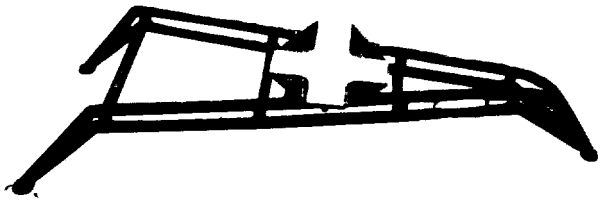

Fig. 30. LEVELLING INSTRUMENT

CONFIDENTIAL

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25X1

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25X1

Fig. 37. LEVELLING INSTRUMENT (STAND)

S-E-C-R-E-T

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25X1

Approved For Release 2004/01/16 : CIA-RDP78-03066R000200140001-3

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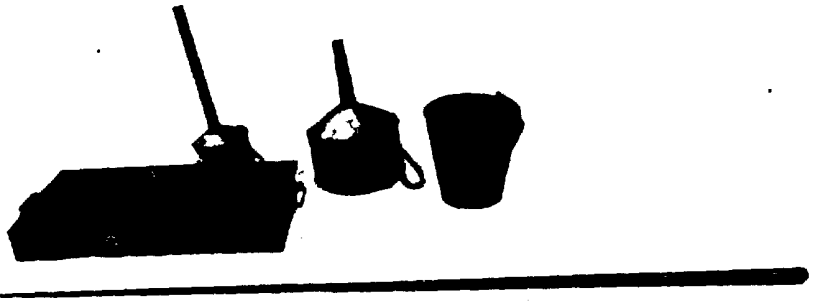

Fig.38. ENGINE SERVICING IMPLEMENTS

1-Rotor pole
2-Fuel funnel
3-Oil funnel
4-Tray
5-Gauge bucket

Fig.39. ING MAT

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Attachment No. 4 to

25X1

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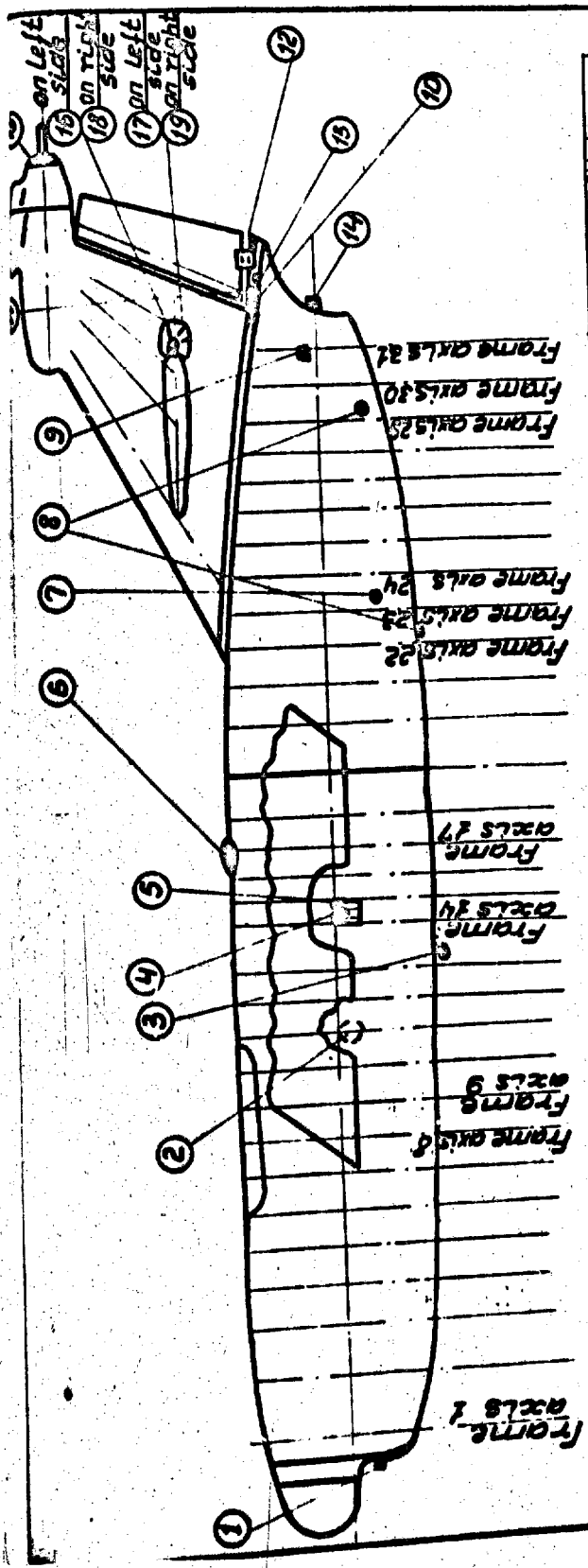

8	Plug - Bolt	3	130EH-19-34	3set
9	Plug	1	1315c51-5-14	2
10	Plug	1		
11	Plug	1		
12	Plug	1		
13	Plug	1		
14	Plug on nozzle	1		
15	Plug	1	1318	155H555-5-16-14 3
16	Plug	1	Right	155H555-5-16-14
17	Plug	1	Left	155H555-5-16-14
18	Plug	1	Trunk	155H555-5-16-14 3
19	Plug	1	Trunk	155H555-5-16-14

Nos	Name	Quan	Standard part.	Quan
1	Front plug	1	—	—
2	Plug	2	—	—
3	Plug	1	—	—
4	Plug	2	—	—
5	Plug	2	1315c51-5-14	4
6	Plug	1	1327c51-5-9	2
7	Plug	2	1318c51-5-14	4

Fig. 40 Antirodent blanking plugs diagram.

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Fig. 41. Diagram of container installation and attachment on special trailer.

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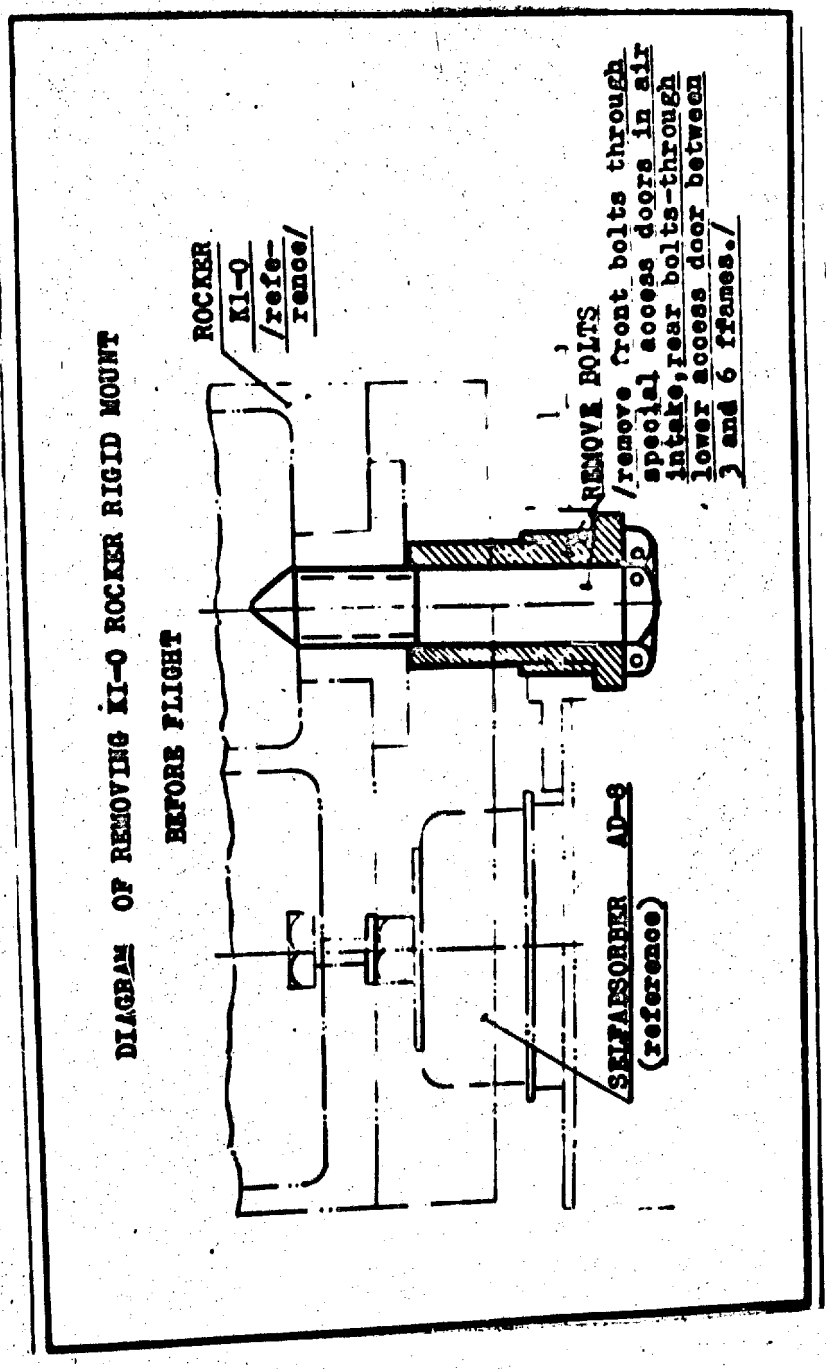

Fig.42 DIAGRAM OF REMOVING KI-O ROCKER RIGID MOUNT BEFORE FLIGHT

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25X1

S-E-C-R-E-T
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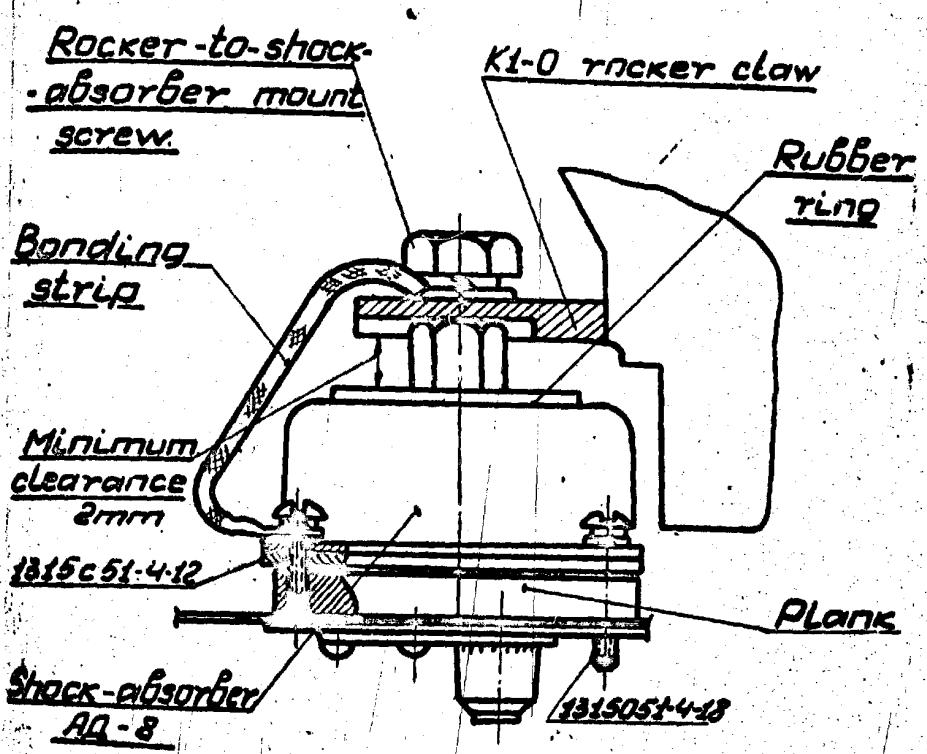
25X1



Clearance gauge for 2mm strip measuring.

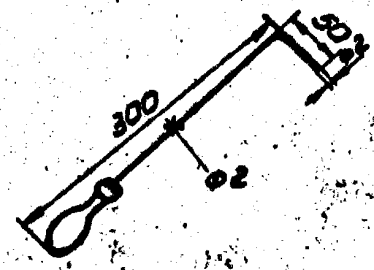


Fig. N 48.

S-E-C-R-E-T
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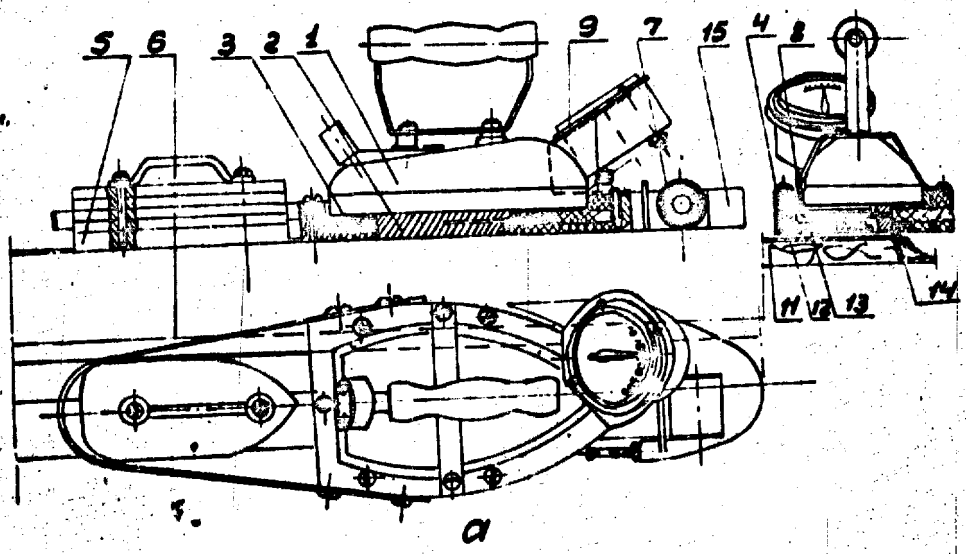
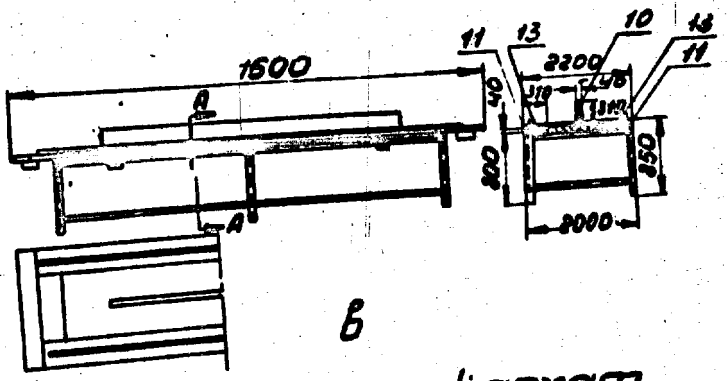


a



б

Table device diagram.

a) device diagram; б) table diagram:
1.- Iron; 2.- runner; 3.- thermoisulating frame;
4.- gauge; 5.- cooler; 6.- tightening; 7.- coil;
8.- thermocouple; 9.- galvanometer; 10.- strip;
11.- board; 12.- oil paper; 13.- rack; 14.- welding
material; 15.- cavity.

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